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HARVARD BUSINESS REVIEW

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THE BANK FOR INTERNATIONAL SETTLEMENTS[1]

By K. P. VAN DER MANDELE

THE functions of the Bank for International Settlements are of a twofold character. It is to be a clearing house for the reparations payments of Germany and in this respect it takes over the task of which the Agent General for Reparations Payments has acquitted himself in such a remarkable way. On the other hand the B. I. S. is meant to be an institution the functions of which are partly those of a Central Bank and in another respect those of an ordinary bank.

This article is primarily concerned with the second set of functions, but it is evident that the activities of the B. I. S. can not be considered separately. For the banking functions could not be exercised if the B. I. S. did not operate as a clearing house for the payments of Germany to her creditors, and inversely the payment and transfer of the sums Germany owes will in a large degree only be made possible because the B. I. S. is authorised to make advances to Central Banks.

There seems to exist no little confusion as to the exact character of the B. I. S. itself. It is often spoken of as a Central Bank or rather as a Central Bank of Central Banks. It must be admitted that the report of the Committee of Experts is up to a certain extent responsible for this misconception. It is stated in paragraph 6 C of the report, that the "use of the Bank's credit by Central Banks within moderate limits, and over short periods, may in time become a normal function scarcely different in its exercise from the use of Central Bank credit by banks and bankers."

This may be quite right, but even this does not justify the identification of the B. I. S. with a Central Bank, in the sense of a Bank of Issue. This the Bank is not and can not be, because it has no power to create money or

[1] This article was written prior to the publication of the statutes of the Bank; foot-notes have been added subsequent to the report of the Baden-Baden Conference.

credit in a direct way. This will be easily understood if one realises that the B. I. S. is deprived of the privilege of having a territory exclusively assigned to it, where the Bank's money is the legally protected circulating medium and ultimate currency reserve.[2]

It is true that the Bank, upon the specific decision of the Board by a two-thirds vote, will be entitled to issue its own obligations for the purpose of relending to any Central Bank, but this is the only instance in which the Bank, upon its own initiative, creates the funds necessary for granting credits. Still there is a great difference between a Central Bank, making a loan and paying it with its own freshly created money, and the B. I. S., which can only make such a loan provided idle funds can somewhere be found, which somebody is willing to invest in the obligations of the Bank.

It can therefore be mentioned as a general rule that the Bank can not create money, and consequently the scope of its credit functions is necessarily limited by the funds it will have at its disposal (as the experts themselves rightly state).

The B. I. S. is, therefore, only a Central Bank in the sense of a Bankers' Bank. For it follows from the experts' recommendations that the banks, more particularly the Central Banks, will be its principal clients; not in virtue of a dependency of the Central Banks upon the Bank's credit facilities, which in fact does not exist, but rather in this respect, that the Bank, within the scope of its activities as a lending institution, is dependent upon the volume of deposits from the Central Banks.

[2] The statutes of the B. I. S. drafted at the Baden-Baden Conference make clear that the B. I. S. is not given the power to issue bank-notes.

The Business Functions of the Bank

In order to get a more or less clear idea of the future business of the Bank for International Settlements, a skeleton balance sheet of the Bank may be drawn up from the report of the Committee of Experts and its annexes.

As may be gathered from this balance sheet, the activities of the B. I. S., especially as a lending institution, assume an enlarged scope in the case of transfer postponement.

It seems appropriate first to consider the Bank's business under normal conditions, i.e., when Germany is regularly fulfilling her obligations. As the Bank's lending capacity is almost entirely dependent upon its own resources and its deposits, the liabilities side of this outline balance sheet may be reviewed from this point of view especially. Upon examination of the various items it soon becomes apparent that some of them are of no value for the credit business of the B. I. S.

This applies in the first place to the deposits on annuity trust account (subhead 3), to be paid by Germany in foreign currencies. These amounts are destined to be turned over to the creditor powers. They are payable by Germany in instalments and, as the B. I. S. will pay no interest on these deposits, it is likely that payment will not be effected until the amounts are due, and consequently the balance in this account will be negligible.

The same holds good for the deposits on clearing account (subhead 4). This item represents deposits in gold from Central Banks, either in vaults or under earmark for the Bank's account in Central Banks. This gold fund must be reserved by the B. I. S. exclusively for the purpose of effecting settlements among the Central Banks.

OUTLINE OF BALANCE SHEET OF THE B. I. S.

Assets

1. Gold in vaults or on deposit with Central Banks, earmarked in the name of the B. I. S.
2. Advances to Central Banks on gold as collateral
3. Deposits with Central Banks
4. Cheques and Bills of Exchange
5. Discounts, of bills, taken from portfolios of Central Banks
6. Loans to Central Banks, against collateral of
   (a) bills as above
   (b) other securities
7. Securities bought
8. Credits opened to Central Banks, upon approval of the Directors by a two-thirds vote
9. Balance with Reichsbank in Marks for special purposes (payments for administrative expenses, etc.)

Liabilities

1. Capital, paid in, equivalent of 125,000,000 Swiss Francs
2. Legal reserve fund
   General reserve fund
   Special dividend reserve fund
3. Deposits on annuity trust account
4. Deposits on (gold) clearing account
5. Deposits from Central Banks
   (a) on current account
   (b) on investment account
6. Deposits from others
7. Special deposit from France of M 500 millions
8. A non-interest-bearing special deposit of the German Government with a maximum of M 100 millions (to be kept during the first 37 years)
9. A long-term, interest-bearing and profit-sharing deposit of Germany of M 400 millions, to aid Germany in paying the last 22 annuities
10. Own obligations, at long or short term, secured or unsecured, for the purpose of relending to Central Banks

Additional Items in Case of Transfer Postponement

10. Deposit with the Reichsbank of non-transferable Reichsmark funds
11. Investments in Germany of same
11. Deposits from Germany in Reichsmark in the Bank's Reichsbank account
12. Counter obligations of the B. I. S. (issued against its investments in Germany), proceeds of which go to creditor powers.

The special deposit from France of M 500 millions (subhead 7) also has a special destination. This amount has to be paid by France upon the transfer postponement coming into effect and is meant as a refund of the special assignment to France of M 500 millions out of the unconditional annuity of M 660 millions, in order to equalise the short payments to other creditors in case of transfer postponement. Consequently this deposit will be distributed pro rata among the other creditor powers as soon as it is made and therefore can not be used by the B. I. S. in its ordinary banking business.

The remaining items, which indeed the B. I. S. may use for granting credits, are the following:

I. The capital of 125 millions (subhead 1)
II. The reserves (subhead 2)
   (a) a legal reserve fund, maximum 10% of paid-in capital, i.e., 12.5 millions
   (b) a general reserve fund, maximum 100% of the paid-in capital, i.e., 125 millions
   (c) a special dividend reserve fund (not compulsory)

III. The deposits from Central Banks (subhead 5)
IV. The deposits from others (subhead 6)
V. The special German deposit of M 100 millions (subhead 8), a non-interest-bearing guarantee fund, which Germany will be obliged to keep during the first 37 years
VI. The non-compulsory long-term deposit of Germany (subhead 9) to be used to aid Germany in paying the last 22 annuities and which has been made attractive to Germany by the special condition that she will participate to the extent of 25% in the surplus of the B. I. S., provided Germany deposits at least M 400 millions
VII. The proceeds of the own obligations of the B. I. S. (subhead 10) to which reference has been made before and which proceeds will be reloaned to Central Banks.

These are the items at the disposal of the B. I. S. under normal conditions, when Germany is fulfilling the whole of her annuity obligations by paying in "devisen," i.e., international commercial paper.

It is clear that the magnitude of the Bank's credit facilities largely depends on the volume of the deposits from Central Banks and from others, these being practically the only elastic items.

It is said in paragraph V, subhead 4, of Annex I, that these deposits from others must originate in the exercise of the Bank's functions in connection with the German annuities and must tend to facilitate such functions. Therefore, it seems to be highly improbable that the B. I. S. is entitled to accept deposits for the financing of some daring project of the character described in the much advertised passage in the report about the financing of projects in undeveloped countries.

There are a few more reasons why one has to be rather sceptical about the possible volume of these deposits. The B. I. S. does not pay interest on deposits lodged for a shorter period than one month; the demand deposits of the B. I. S. (up to 15 days) must be covered to the extent of 40% by gold and/or devisen and the time deposits for 25%,[3] which of course does not add to the earning power of the B. I. S., and consequently the Bank will often not be in a position to pay a competitive rate of interest.

As to the deposits from Central Banks, the sponsors and the most important clients of the B. I. S., most of the Central Banks will probably not be in a position to deposit large sums with the B. I. S. unless the Bank Acts are amended in such a way that a balance with the B. I. S. may form part of the legal reserve. It is to be feared that, particularly in those countries where devisen does not have this status, such a step is most unlikely. This is the crux of the whole matter. It is misleading to speak of the B. I. S. as a Central Banks' Bank as long as a balance with the B. I. S. is not considered as good as gold.

It is true that a Central Bank may send its gold to the B. I. S. and be credited on clearing account, and of course this gold forms part of the gold reserve of the Central Bank in question just as before, but this does not give it an additional reserve and does not strengthen the Central Bank's position in any way. For this purpose it ought to be possible for a Central Bank to rediscount the paper out of its own portfolio with the B. I. S. and count the proceeds as legal reserve. If, under the existing circumstances, a Central Bank (e.g., the Bank of the Netherlands) wishes to increase its reserves via the B. I. S., it is obliged to withdraw the freshly created balance

[3] The statutes of the B. I. S. do not prescribe a special cover for the deposits of the Bank.

in devisen, for instance in dollars, in order to sell these dollars in the exchange market. If the B. I. S. does not have a sufficient dollar balance available, it is obliged either to ask its New York correspondent, the Federal Reserve Bank, to grant it a dollar credit, which may run counter to the interests of the American money market, or to sell the newly acquired guilder bills, a course of action which is certainly contrary to the interests of the Netherlands Bank, which is just then engaged in counteracting the demand for devisen against guilders.

The Bank as a Source of Credit

Turning now to the other side of the balance sheet, we are bound to admit in advance that the Bank is in fact much more limited in its scope of activities than certain parts of the report of the experts seem to suggest.

In paragraph 5 of the report, the experts state that they "envisaged the possibility of a financial institution that should be prepared to promote the increase of world trade by financing projects, particularly in undeveloped countries, which might otherwise not be attempted through the ordinary existing channels," and a little further on one can find the following statement:

"We consider that by judicious non-competitive financial development the Bank should prove a useful instrument for opening up new fields of commerce, of supply and of demand, and will thus help to solve Germany's special problem, without encroaching on the activities of existing institutions."

It seems to me that the importance of these statements has been greatly exaggerated, for we should not overlook another remark in the report, viz., that the B. I. S., in its transactions with banks, bankers, corporations and individuals, is limited to its authorised functions which are summed up in detail shortly afterwards (Annex I, paragraph VI).

The scope of these functions, in particular those concerning the credit business of the B. I. S., may be gathered by examining the pro forma balance sheet produced somewhat earlier. We must then arrive at the conclusion that under ordinary circumstances, i.e., when no transfer postponement automatically enlarges the activities of the B. I. S., its attitude must almost entirely be a passive one, and that the Bank is largely dependent on the measure in which the Central Banks approach it for financial support. As the Central Banks remain responsible for the paper rediscounted at the B. I. S., it is not likely that they themselves will encourage business of the more or less hazardous character described in the preceding paragraph, notwithstanding the knowledge that the B. I. S. may be backing them.

Moreover, it seems highly improbable that the Central Banks will often feel inclined or obliged to turn to the B. I. S. for financial aid, for as a rule they are vested with sufficient powers to influence the money market at home by contracting or extending the volume of credit. And it is far from certain that, in those cases where they might appear to be unable to master the situation, the B. I. S. will be in a position to solve the problems. As I pointed out above, even the necessary funds may be lacking.

It is true that on its own initiative the B. I. S. is entitled to buy cheques, bills of exchange and long-term bonds, but it is clear that before bills of exchange are forthcoming, the project in question will no longer be in the

pioneer stage in which financial aid is most needed and which the experts must have had in mind when writing about the uplifting of undeveloped countries. As to the long-term bonds the B. I. S. is allowed to buy, it should be borne in mind that the Bank may not invest more than its own capital and reserves in this kind of securities, and consequently this class of business can not be of much importance. But the point I wish to emphasise most strongly is that the B. I. S. is at the mercy of its future creditors and is entirely dependent upon the volume of funds entrusted to it.

However, even with many hundreds of millions at its disposal, the B. I. S. can not do more than invest capital, which otherwise would have found its way to the countries most in need of it, in a more direct way through the ordinary channels of credit, i.e., the international capital market, which is fully equipped to fulfill this delicate task to the benefit of lenders and borrowers alike.

It is, therefore, very likely that the B. I. S. as a bank (not as a transfer agent, of course) will lead a more or less languid existence, but its activities will be multiplied in case of transfer postponement. For from that moment the instalments paid by Germany will accumulate in the Marks account of the B. I. S. with the Reichsbank and will automatically be used to lighten the burden laid on Germany. Automatically, for though it is expressly stated in the report that these funds are to be used for investment in Germany, priority being given to the financing of deliveries in kind, the beneficial influence on Germany of the transfer postponement is not dependent on such employment. As soon as this postponement becomes effective, the Reichsbank is relieved of the necessity of contracting the credit market in Germany, which it should have been obliged to do if the transfer had not been postponed; for in that case the Reichsbank would have been compelled to counteract the influence of the transfer on the rate of exchange on Berlin by selling devisen, i.e., by a contraction of the money market.

On the other hand, the transfer postponement and consequently the investment in Germany of non-transferable funds should not be considered as a pouring of fresh capital funds into Germany. The amounts otherwise to be paid and transferred by Germany are allowed to be kept there—that is all that can be said. The importance of these provisions should not be minimized: even the diverting of a disastrous evil is an accomplishment of the first order.

For the sake of completeness I should also mention here the counter obligations of the B. I. S. (balance sheet subhead 12) which the Bank is allowed to issue against its investments in Germany, the proceeds of which go to the creditor powers. This faculty of the B. I. S. must make it possible to satisfy the war-debt claims of the creditors of Germany by shifting the burden of the transfer postponement from the powers concerned to the international capital market. By this procedure the investments in Germany, which hitherto had been financed by the creditor governments, are turned over to private capitalists.

Mobilisation of the German Debt

There is one other point in the experts' recommendations in which the B. I. S. is bound to play an important part and in which the banking commu-

nity all over the world must be highly interested, i.e., the commercialisation and mobilisation of the German debt.

As to the commercialisation, this certainly is not an invention of the Young Committee, for the same thing has been going on for years. The way Germany has been fulfilling her obligations under the Dawes plan, by borrowing anew for all kinds of purposes, is in fact nothing else but the conversion of her political debt into a commercial debt. As long as Germany's credit is not damaged by economic or political disturbances and the capital funds in the world in general are adequate, the same process will continue under the Young plan. Whether by so doing Germany is not piling up an intolerable burden is a matter which in all probability depends in the first place on the productiveness of the capital thus reloaned to Germany.

The mobilisation of the German debt, however, is certainly a new feature in the settlement between Germany and her creditors. For Germany this is not much more than a juridical matter, at least as far as the unconditional annuity of M 660 millions is concerned. Economically speaking, it does not make any difference to her whether she pays this annuity on annuity trust account or to the holders of the mobilised obligations.

It is true that with the consent of Germany the remaining part of the annuity can also be mobilised, but the right given to Germany to postpone transfer and payment of this conditional part also applies to the coupons of this part of the capitalised debt. Still, it is no small matter to repudiate an ordinary obligation, and it is, therefore, not to be expected that Germany will easily consent to the mobilisation of the postponable part of the annuity.

In order to succeed in mobilising all or part of the unconditional annuity, a market must be found for these German bonds, which form a simple obligation of the German Reich and are not guaranteed either by the creditor powers or by the B. I. S.

Even the existence of an ample supply of capital waiting for investment is no sufficient guarantee for an easy marketing of these obligations. It is to be expected that the public will prefer an investment of a more secure character with a traceable productiveness. The said German obligations do not meet this requirement, for though formally an ordinary commercial loan, the basis remains a purely political debt, by no means contracted for productive purposes. The experts themselves do not seem to have been very enthusiastic about this mobilisation either. They state in paragraph 10 of their report rather laconically: "Certain governments are known to attach particular importance to the possibility of raising money by the issue to the public of bonds representing the capitalisation of the unconditional portion of the annuity ('mobilisation')."

On the other hand, it should not be forgotten that most of the money raised for the benefit of all or some of the creditors of Germany will return to the capital market as the proceeds of the obligations issued and placed are turned over to the creditor powers, who in most instances will use these funds to pay off part of their own external or internal debt. But my principal objection to the mobilisation of the German debt is, that, though it does not increase the annual burden laid on Germany, it tends to saturate

the international capital market with German obligations, thus depriving Germany to a certain degree of the possibility of raising money for legitimate and productive purposes, and consequently lessening the probability of an increase of Germany's exports necessary for the definite fulfilment of her war-debt obligations.

It is therefore to be hoped that the B. I. S. will be very reluctant in promoting the issue of these German bonds.

If a certain creditor country wishes to convert her national debt into German bonds by an internal issue of the latter, no formal objection can possibly be raised, but fundamentally there is very little difference between these two kinds of mobilisation; and the same objections, based upon the eminent danger of a saturation of the capital market with German obligations, are applicable to this internal conversion.

Conclusion

My conclusion, after the foregoing, is that it is likely that the B. I. S. may prove an excellent successor to the Agent General for Reparations Payments, worthy to follow the footsteps of Mr. Parker Gilbert. But I am rather sceptical about the importance of the banking functions which the B. I. S. is meant to perform. It can not create credit and is therefore entirely dependent on the deposits entrusted to it by others, notably the Central Banks, which, though perhaps quite willing to promote the activities of the Bank, are hampered by the severe legal regulations as to their reserve requirements. I further believe that the B. I. S. is greatly though rightly handicapped in its investment policy on account of the dependency on the policies of the Central Banks. Finally, I am not convinced that in the intricate business of handling international credits the B. I. S. will prove to be a necessary addition to the bodies now performing these functions.

Still, it may in course of time prove that the B. I. S. will have a beneficial influence on the policies of the individual Central Banks, by the mercy of which it begins its existence. After all, it brings the Central Banks into closer contact with each other. As the experts rightly say in their report: "It is to be hoped that the B. I. S. will become an increasingly close and valuable link in the cooperation of central banking institutions generally, a cooperation essential to the continuing stability of the world's credit structure." This statement one can not but whole-heartedly endorse.

THE CONCENTRATION OF BANKING RESOURCES

By GEORGE S. MUMFORD

THE relation between banks and the public is subject to constant evolution. This goes back to the very beginning of banking in this country, when banks were so unpopular that they were obliged to ask for charters as water companies, or perhaps chemical companies, and then do banking as a side issue. It is undoubtedly due to the change from such implied public disapproval into a gradual growth of modified popularity that banks have assumed their present position of outstanding importance.

Men in general still have extremely hazy notions of procedure in looking after their own money, but they constitute the class that makes the laws which govern banking, and the result has been that bankers at the best work under rules made for conditions that are past and dead. The special laws that have slowly grown to govern the operations of banks have necessarily become archaic because of rapid changes in the conditions that called them forth. Banks are driven to exercise all their ingenuity to find legal ways to meet the demands of the public for modern banking facilities.

Bank Mergers

As a general thing, it is probably easier to pass new laws than to get rid of old ones. Our lawmakers encounter so many cross currents when trying to frame new banking laws, that they are enormously delayed and hampered. Some of the old prejudices still survive, innumerable laws are left in force that were created to meet conditions that no longer exist, the politicians themselves know extremely little about the subject but are mighty suspicious of banking experts, and, over and above all, is the feeling in their minds that the important thing is to prevent dishonesty and incompetence rather than to make the road clearer for the able and honest banker.

It was not more than thirty years ago that the general public made very little use of banks, except the savings banks. It is quite possible that on the whole this was fortunate for the public, since most banks at that time suffered from mismanagement by incompetent but not necessarily dishonest officials. The number of banks in settled communities greatly exceeded the needs of the public, and this is no better illustrated than in the fact that the Boston Clearing House had sixty member banks. There were not sixty men properly trained to run a bank in the whole of New England, much less in this one city. It was inevitable under such conditions that bank mergers should become fashionable, if not popular.

This matter of the public approval or disapproval of bank mergers in general is, of course, extremely important. The opposition to these mergers was founded chiefly on the fallacy that merchants and others could not borrow for their legitimate needs unless an active competition was going on between banks for the accounts of such

merchants; or to put it another way, the more banks there were, the more money and/or more favorable terms would be available for borrowers. In the final analysis, and as a result of bank mergers, it is clear that quite the reverse is the fact. It is needless to go into this in detail, but it may be accepted that the public has learned that it is not to its advantage to make the way easy for people to borrow money who are not able to pay it back. Before this stage was reached, there had been the popular demand to have bank charters granted to groups of people with little financial strength, or to politicians, on the ground that they were closer to the people than so called bankers; somewhat on the principal of negro-operated banks for negro depositors, or Irish banks for the Irish. In Boston this attitude reached its climax a dozen years ago with the failures of the Tremont, Cosmopolitan, Hanover and Prudential Trust Companies, contemporaneously with the Ponzi affair.

Bank mergers at first were effected under general laws by the simple process of one bank's buying another for cash. The process was not one of consolidation of the ownerships of the two banks, although in rare instances the purchasing bank did allot a block of its stock to the stockholders of the bank it purchased.

At that period national banks were not permitted to have branches, while state banks and trust companies in some of the states, notably in California, could have almost as many branches as they wanted. The Statutes of Massachusetts permitted trust companies in Boston to have one branch each within the city limits, and in 1914 the Massachusetts Legislature reached the point of taking action towards legislation on a movement already begun in the direction of chain banking through ownership by one bank of substantial blocks of stock in other banks, and a law was passed forbidding trust companies to hold more than 10% of the capital stock of any other trust company. At the same time the stamp of approval was placed upon bank consolidation by authorizing a trust company to take over the business of any other trust company located in the same town, and maintain as an additional branch office the quarters of the trust company which it absorbed. Thus began an extension of branch banking restricted to the limits of a single city.

In 1918 Congress passed an Act providing for the consolidation of two national banks into a single organization, but made no provision for the consolidation of a State bank or trust company with a national bank under the charter of the national bank. The result of this was that in order to effect such a consolidation, it became necessary to go through the clumsy process of converting a State bank or trust company into a national bank, and then after an interval of thirty days consolidating it with the other national bank.

In 1927 Congress passed a bill correcting this situation and provided a method for the consolidation of a national bank with any bank incorporated under the laws of any State. This period of bank consolidations, running over something more than thirty years, illustrates the extent to which our lawmakers lag behind the needs and the demands of the public, and the reason for it was clearly founded on doubt on the part of our lawmakers as to what the public in general really wanted. Did they want small banks or big ones with branches?

Extending Banking Functions

In the mean time, banks have assumed other functions. They have taken on the duties of trustee, executor and investment counsel on the one hand, and on the other have become investment bankers or dealers in securities. Here again the laws have lagged behind actual conditions. First, we had the bank of discount, and later we had this same bank operating on its own account in bonds and stocks and in real estate whenever the laws did not interfere or when they could be evaded. Next, these banks were permitted to have branches, first those operating under State charters, and later the national banks also were given similar rights.

With the organization of the Federal Reserve System, the tendency became immediately apparent to grant national banks all the rights and privileges that belong to state banks, such as power to act as trustee and to deal in securities with and for the public; for Congress realized that the Federal Reserve System, which is primarily the creature of Congress, needed its active support.

At the present time an outstanding feature of the situation is the rivalry between the Federal Congress on the one hand trying to induce banks to operate as national banks, and the various State legislatures on the other, to induce them to be incorporated as trust companies or State banks under State charters.

To be a complete unit, a bank should be divided into three major departments: first, pure banking; second, trust activities on a commission basis, involving only the property of others; and third, dealing in securities. Not only have the Federal laws failed to catch up with the laws of most of the States in specifically granting to national banks the rights freely to do these things, but in certain instances Congress has actually retraced its steps for fear of encroaching on State rights. The Federal banking law of 1927 has been passed upon by certain courts in connection with the permission granted to national banks to act as trustees and executors. The Supreme Court of Massachusetts has decided in effect that a consolidation does not give the consolidated bank a continuing right to act as trustee and executor for the estates held in that capacity by both the uniting banks; that one of the banks, by going through the form of a consolidation, lost its charter, and that its position as executor or trustee immediately lapsed. It also said that the Federal Bank Act of 1927 was unconstitutional, in that it attempted to take from the States their inherent right to control and administer the property and estates of deceased or incompetent citizens and residents.

The United States Supreme Court later confirmed this decision, except as to the matter of unconstitutionality, and in this matter it pointed out that the Federal Act of 1927 expressly provided that the consolidated bank should receive and administer trust estates in accordance with State laws, and that, therefore, it took away no rights from States, and so there was nothing unconstitutional in passing the Act of 1927 as it was worded.

When two banks are planning to consolidate, it is apparent that while they can combine their assets, capital stock and general banking activities, they are not so sure about their right under the Federal Statute of 1927 to combine their trust activities. This became apparent in the consolidation

that recently took place in New York between the National City Bank and the Farmers Loan & Trust Company. There were doubtless other reasons for this, but the consolidation took the form of an indirect holding company, the National City Bank absorbing all the banking activities of the two institutions, and the Farmers Loan & Trust Company absorbing all the trust activities, while the capital stock of the latter was sold to a straw committee to hold for the benefit of the National City Bank; for the National City Bank did not have the power legally itself to own the stock. The step from this situation to that of a holding company owning the stock of both banks is a very short one, and it is here that we approach the field of the holding company in general for bank combinations.

It is important to bear in mind that so called branch banking and the holding company, while they bear a superficial likeness to each other, are essentially and wholly different. In using the term "Holding Company" as applied to chain or group banking, there exists the implication that it controls or manages the banks it has invested in, and is not a mere investment trust. A holding company may own all the stock in a bank, a trust company, or a bond house, or it may own a majority interest or only a fraction of their outstanding stock.

The Banking System in England and Canada

Branch banking is the essence of the English and Canadian banking systems. There a single bank or, in fact, a few individual banks operate their own branches in hundreds of locations throughout their respective nations just as a New York bank operates its ten, twenty or one hundred branches throughout the city limits of New York under a central management and supervision and a single bookkeeping headquarters.

The socalled "big five" banks of London have their head offices in the "City" and branches throughout England and Wales, with affiliated banks which they own having head offices either in London or in other countries which in their turn also have their branches. They occupy practically the same position toward their nation that the twenty thousand commercial banks in this country occupy toward ours.

BARCLAYS BANK, LIMITED

Head office: London, England
850 branches in England and Wales
Resources, £ 380,000,000 Sterling

Banks affiliated with Barclays Bank, Limited:—

BARCLAYS BANK (DOMINION, COLONIAL AND OVERSEAS)
Head office: London, England
440 branches in other countries

BARCLAYS BANK (FRANCE), LIMITED
Head Office: London, England
13 branches in France
2 branches in Algeria

BARCLAYS BANK, S. A. I.
Head Office: London, England
2 branches in Italy

BARCLAYS BANK (CANADA)
Head Office: Montreal, Quebec
no branches

THE BRITISH LINEN BANK
Head Office: Edinburgh, Scotland
196 branches in Scotland

THE UNION BANK OF MANCHESTER, LTD.
Head Office: Manchester, England
164 branches in England

Total resources, Barclays Group:
£ 500,000,000 Sterling

LLOYDS BANK, LIMITED

Head Office: London, England
1750 branches in England and Wales
11 branches in India

Banks affiliated with Lloyds Bank, Limited:—

LLOYDS AND NATIONAL PROVINCIAL BANK, LIMITED
Head Office: London, England
(owned jointly with National Provincial Bank, Limited)
18 branches in other countries

NATIONAL BANK OF SCOTLAND, LIMITED
Head Office: Edinburgh, Scotland
165 branches in Scotland

BANK OF LONDON & SOUTH AMERICA, LIMITED
Head Office: London, England
48 branches in other countries

Total resources, Lloyds Group:
£550,000,000 Sterling

MIDLAND BANK, LIMITED
Head Office: London, England
2000 branches in England and Wales

Banks affiliated with Midland Bank, Limited:—

CLYDESDALE BANK, LIMITED
Head Office: Glasgow, Scotland
192 branches in Scotland

NORTH OF SCOTLAND BANK, LIMITED
Head Office: Aberdeen, Scotland
159 branches in Scotland

BELFAST BANKING COMPANY, LIMITED
Head Office: Belfast, Ireland
83 branches in Ireland

Total resources, Midland Group:
£575,000,000 Sterling

NATIONAL PROVINCIAL BANK, LIMITED
Head Office: London, England
1260 branches in England and Wales

Banks affiliated with National Provincial Bank, Limited:—

LLOYDS AND NATIONAL PROVINCIAL BANK, LIMITED
Head Office: London, England
(owned jointly with Lloyds Bank, Limited)
18 branches in other countries

COUTTS & CO., LONDON, ENGLAND
3 branches in London

GRINDLAY & CO., LIMITED
Head Office: London, England
6 branches in India

Total resources, National Provincial:
£350,000,000 Sterling

WESTMINISTER BANK, LIMITED
Head Office: London, England
985 branches in England and Wales

Banks affiliated with Westminster Bank, Limited:—

WESTMINISTER FOREIGN BANK, LIMITED
Head Office: London, England
7 branches in other countries

ULSTER BANK, LIMITED
Head Office: Belfast, Ireland
207 branches in Ireland

Total resources, Westminster Group:
£365,000,000 Sterling

Thus these five banks have the total equivalent of $12,000,000,000 in concentrated resources.

Substantially, all the banking power of Canada is under the direction of four banks. These four great Canadian banks have branches in the United States, which are agencies rather than banks of deposit, also in Cuba, Central and South America.

BANK OF MONTREAL
Head Office: Montreal, Quebec
620 branches in Canada
11 branches in other countries
Resources, $875,000,000

BANK OF NOVA SCOTIA
Head Office: Halifax, Nova Scotia
298 branches in Canada
26 branches in other countries
Resources, $265,000,000

CANADIAN BANK OF COMMERCE
Head Office: Toronto, Ontario
579 branches in Canada
10 branches in other countries
Resources, $575,000,000

ROYAL BANK OF CANADA
Head Office: Montreal, Quebec
765 branches in Canada
112 branches in other countries
Resources, $1,000,000,000

Bank Consolidations in the United States

The germs of both the branch banking and holding company or group systems have developed rapidly in this country recently. In the far west, branch banking is in the ascendent.

In the east the holding-company method seems to be most in favor, while the middle of the continent is more or less torn between the two, with progress toward the holding company rather more pronounced. In the east, in New York, Pennsylvania and the New England States, the mutual savings banks own very substantial amounts of the capital stock of the commercial banks. When two banks consolidate, such investment is still legal in the consolidated institution, but although a holding company may give its own stock to the individual bank stockholder in exchange for his shares of bank stock, it must buy out the savings bank for cash, or else leave the saving bank's investment in bank shares just as it is. While it does not appear that there is any law to prevent a holding company from owning all the stock in as many banks as it can, yet it can not consolidate them into a single unit unless they all lie within the same city boundaries. In such case the holding company may as well itself be a bank, as in the case of the National City Bank of New York; or if it remains as a holding company, it has to deal with the problem of the mutual savings banks.

In the middle west the problem is somewhat different and to a certain extent simpler, although there are certain State laws that forbid a trust company to do any commercial banking. Actual consolidations between banks situated in different states are not legal, but a holding company is not thus restrained from extending its ownership of banks indefinitely. Thus we have "Chain Banking" or "Group Banking," which is a step toward branch banking, but as the laws now stand the two systems are quite far apart. As an illustration of the start this form of banking has made in the middle west, take the Northwestern National Bank group, called the Northwest Bancorporation, centering around that bank, which is located in Minneapolis. The resources of this bank by itself were about $90,000,000. The combined resources of the group were $320,000,000; more recently the group was increased to 76 banks with total resources of $440,000,000. To show how widely the different units are scattered, some are here listed. It is probable that the holding company that has the control of all these banks in many cases owns merely a majority interest in the bank's capital stock.

Northwestern National Bank & Affiliated Banks—Minneapolis, Minnesota
Minnesota Loan & Trust Company—Minneapolis, Minnesota
First National Bank—Aberdeen, South Dakota
First National Bank—Deadwood, South Dakota
Iowa-Des Moines National Bank & Trust Company—Des Moines, Iowa
First & American National Bank—Duluth, Minnesota
First National Bank & Trust Company—Fargo, North Dakota
Security National Bank & Trust Company—Faribault, Minnesota
Fergus Falls National Bank—Fergus Falls, Minnesota
National Bank of Huron—Huron, South Dakota
James River National Bank—Jamestown, North Dakota
National Bank of La Crosse—La Crosse, Wisconsin
First National Bank—Leed, South Dakota
First National Bank—Mason City, Iowa
First National Bank—Minot, North Dakota
First National Bank—Moorhead, Minnesota
United States National Bank—Omaha, Nebraska

United States Trust Company—Omaha, Nebraska
Stock Yards National Bank of South Omaha—Omaha, Nebraska
South Omaha Savings Bank—Omaha, Nebraska
Security State Bank—Owatonna, Minnesota
First National Bank—Rapid City, South Dakota
Live Stock National Bank—Sioux City, Iowa
Security National Bank—Sioux Falls, South Dakota
Stock Yards National Bank—South St. Paul, Minnesota
Commercial National Bank—Sturgis, South Dakota
Citizens National Bank—Wahpeton, North Dakota
Citizens National Bank—Watertown, South Dakota
First National Bank—Watertown, South Dakota

Another holding company in the same general district, under the name of First Bank Stock Corporation, controls and operates a group of 72 banks with total resources of $438,000,000.

First National Bank—Minneapolis
First Minneapolis Trust Company—Minneapolis
Minnehaha National—Minneapolis
Bloomington-Lake National—Minneapolis
Produce State—Minneapolis
First National—St. Paul
Merchants Trust Company—St. Paul
Grand Avenue State—St. Paul
Farmers & Merchants State—St. Paul
First National—Brainerd, Minnesota
First National—Graceville, Minnesota
American National Bank in Little Falls—Little Falls, Minnesota
Northfield National Bank & Trust Company—Northfield, Minnesota
First National—Owatonna, Minnesota
First National Bank of Rochester—Rochester, Minnesota
Merchants National Bank & Trust Company of Fargo—Fargo, North Dakota
Red River National Bank & Trust Company—Grand Forks, North Dakota
First National—Hebron, North Dakota
First National—Cando, North Dakota
First National—Cooperstown, North Dakota
The National Bank & Trust Company of Jamestown—Jamestown, North Dakota
First National—New Rockford, North Dakota
The National Bank of Valley City—Valley City, North Dakota
Aberdeen National—Aberdeen, South Dakota
First State Savings Bank of Aberdeen—Aberdeen, South Dakota
The First National Bank & Trust Company—Vermillion, South Dakota
First National—Bismarck, North Dakota
Metals Bank & Trust Company—Butte, Montana
First National—Great Falls, Montana
Western Montana National—Missoula, Montana
Midland National—Billings, Montana

Similar holding companies have organized groups of banks in Detroit, Milwaukee, and other large centers, but the outstanding examples are to be found in San Francisco. There branch banking is carried on within statewide limits, and combined with this is also the control of hundreds of country banks which operate under their own names and not technically as branches. The Bank of Italy National Trust & Savings Association has hundreds of branches with total resources of nearly $1,000,000,000; so, too, the Bank of California, with resources of $400,000,000. In Detroit, one of the holding companies controls banks having total resources of $725,000,000. The operating banks of chief importance making up this group are the following banks located in Detroit:

First National Bank
Peoples Wayne County Bank
Detroit & Security Trust Company
Bank of Michigan
Peninsular State Bank

In Milwaukee the new First Wisconsin group has resources of $275,000,000, and includes banks in the state of Michigan as well as Wisconsin.

Recommendations of the Comptroller of the Currency

The United States Treasury Department has become impressed by a recent decline in total national banking resources and a corresponding increase in resources of combined State banks and trust companies. It has proposed to recommend forthwith that Congress shall do something. The Comptroller of the Currency has publicly set forth certain facts, and his recommendations follow:

A study of bank earnings covering the last two or three years, which have been years of general business prosperity, shows that a large percentage of banks outside of the principal cities—constituting three fourths of our banks and serving the majority of our population—are operating with insufficient earnings. Taking 1927 as a typical year, 966 national banks operated at a loss, and an additional 2,000 earned less than 5%. In other words, about 38% of all national banks earned for the year 1927 less than the yield of a high grade security. It is well known that the earnings capacity of the general run of country national banks is certainly not below that of the State banks similarly situated . . .

The average earnings of all banks, national and State, in one of our great agricultural States for the years 1924 to 1928, inclusive, were less than 1½% on invested capital. In four other great middle western States, comprising both agricultural and industrial activities, 2,053 banks, national and State, earned in 1927 less than 6% on invested capital.

The inability of many country banks to earn a fair profit upon invested capital is naturally reflected in the large number of failures which have occurred during the past eight years. From 1921 to 1928, inclusive, about 5,000 banks closed their doors and tied up deposits of more than $1,500,000,000. Of this number, 700 were national banks and 4,300 were State banks. In four States, from 40% to 53% of all banks in existence in 1920 failed; from 20% to 40% in six States; and from 10% to 20% in ten other States. Only two small eastern States have had no bank failures within this period. 80% of these failures occurred in cities with a population of less than 3,000 and about 70% of the failed banks were capitalized at $50,000 or less.

* * * * *

In the absence of Government permission for branch banking in its true sense, present developments indicate that group banking, under the force of economic law, may eventually displace the present system of country banks.

I have reached the conclusion that an extension of branch-banking privileges should be granted to national banks.

That it should not be Nation-wide will be generally admitted. It has been suggested that branch banking be limited to the confines of each Federal Reserve District. This may not be feasible to the same extent in all Federal Reserve Districts. Restricting it to State boundaries, which are political rather than economic, presents difficulties, as does the suggestion that a radius of 50 to 100 miles from the parent bank be fixed, but there is an economic area to which the extension of branch banking can be applied, varying in size to meet the diversified conditions that exist in this vast country.

It is for Congress ultimately to fix the boundaries of these districts; but Congress, of course, would not and could not attempt to do so prior to careful consideration and study of all of the factors, which could only be carried on by a committee of qualified experts. Would we not be making real progress if, at the coming session, the Congress were to instruct, let us say, the Secretary of the Treasury, the Governor of the Federal Reserve Board and the Comptroller of the Currency to study the banking situation and to report the boundaries which they would recommend that the Congress set up, establishing such definite areas?

* * * * *

From the standpoint of the Government of the United States, the increase in the resources and strength of the national system as a result of the extension of branches and the conversion of large State banks into national banks, would bring into the Federal Reserve System a great volume of banking resources now operating independently and at the same time develop an instrumentality over which the Government would have complete control and through which it could enforce an adequate banking policy.

Conclusion

It is clear that the Washington authorities who have supervision over national banking fear that the movements toward "Holding Companies" and "Group Banking" will carry the banking power of the country into the control of the separate states and threaten the very existence of the Federal Reserve System. The great political objection to branch banking originated and still lies in a feeling of hostility toward New York and "Wall Street," and the fear that by making branch banking legal the present banks of the country would be bought up by the large New York banks and converted into branches. As a lesser evil the politicians look with modified favor on this holding company movement, because it is as yet definitely localized in isolated districts. If this localization could be maintained and held in some legal form under Federal and not State control, they will be satisfied. In theory this does not destroy competition, to encourage which is the essence of good politics, for several rival groups might exist side by side in the same district. To encourage competition is the essence of good politics.

It is outside of the scope of this discussion to enter into the possibility that always remains that these big holding companies, or consolidated banks, if they become such under new laws, will in their turn continue to amalgamate and consolidate. Who can say when and at what stage the merger movement in banks will end?

The question is sometimes asked, "Why do perfectly well-run useful banks sell out and become absorbed, and at what point does the consolidation movement cease to be of benefit to the public?"

It must be borne in mind that the most valuable accounts a bank can have are the accounts of railroads, great industrial corporations and life insurance companies. By this is meant not the so called complimentary accounts of comparatively small size that may be scattered here and there in a rather perfunctory way, but the real reservoirs of cash from which these organizations draw their important payments. These great deposits inevitably drift towards the largest banks, and as long as any of them remain in the old banks of moderate size, the motive for absorbing such banks by the big banking combinations is a very pressing one.

Industrial mergers also tend to drive banks into consolidation. When a group of electric lighting or gas companies merges, the various bank accounts of the original units making up the consolidation or holding company are eventually transferred to perhaps two or three main cash reservoirs in as many large banks. In short, the banks that get the most desirable accounts are in their turn the most conspicuous banks. To a considerable extent also this motive influences the combining of two great banks, as well as the absorbing of small ones by the large.

Back of this present situation is undoubtedly the feeling that exists

among the banks that this movement is an inevitable development, and that in the interest of the bank's stockholders, the management should take an active part in it, rather than stand on the side lines and watch the procession pass by. The motives are founded on a desire to be constructive in a way that is beneficial. Call it ambition, greed, or selfishness, it is the fundamental of business progress, the creation of sound investment securities, and the gratification that is felt by the men who achieve success.

THE FEDERAL RESERVE SYSTEM IN THE LIGHT OF CHANGING BANKING CONDITIONS

By W. P. G. HARDING

THE Federal Reserve Act became a law on December 23, 1913. Under its provisions, a National bank in order to retain its charter was compelled to become a member of the Federal Reserve System within twelve months; while membership on the part of State banks and trust companies was optional with them, but once having become members, they could not withdraw voluntarily, although they would forfeit membership by violation of the law. This was by no means satisfactory to the institutions operating under State charters and, until the law was amended in June, 1917, so as to provide for voluntary withdrawals after six months' written notice, only about sixty-five State institutions had become members. Even after the amendment to the law, State banks showed no general inclination to apply for membership until an appeal to their patriotic impulses was made by President Wilson on October 13, 1917. Following the Armistice, there were several withdrawals and at the present time, while most of the larger State banks and trust companies are members, the great majority of all State institutions eligible for membership still remain outside.

Meanwhile, marked changes have taken place in banking conditions. There has been a decided trend toward the establishment of branches in those States where they are permitted, and more recently toward the acquisition of a controlling interest in banks by holding companies. The McFadden Act, which was designed to put National banks on a more favorable basis in competing with State institutions, has not been effective, for since its passage nearly every merger which has taken place in New York, Chicago and other large cities, has resulted in the surrender of National bank charters by the National banks involved in the mergers. Large corporations in the country no longer finance themselves through loans to the extent that they formerly did, but are showing a tendency more and more to finance themselves by issuing securities—bonds, debentures, preferred and common stocks. This has resulted in a marked decline in the percentage of eligible paper held by member banks, and nearly every important bank in the larger cities has now a subsidiary security company which makes a business of distributing securities to the public. But for the fact that most of the member banks are holders of United States Government bonds and Treasury notes and certificates upon which they can secure advances from Federal reserve banks, it would be impossible for the Federal Reserve System in times of stress to give many of them needed accommodation.

The high money rates which have prevailed during the past eighteen months, together with the limitation upon branches contained in the McFadden Act, have caused many member banks, both State and National, to become dissatisfied with their membership. As the Federal reserve banks

pay no interest on the reserve deposits of member banks, many of the medium-sized and smaller banks in the System have been figuring on the interest they would receive were these balances held by some correspondent bank or banks, and have been charging this loss of interest as an expense of membership in the Federal Reserve System. The mergers which have taken place have resulted in banking institutions far larger and stronger than any which existed at the time of the passage of the Federal Reserve Act, and it seems, in order to assure the perpetuation of the Federal Reserve System as well as of our traditional system of independent banking, that some amendments to the existing law are necessary.

The Federal Reserve Act in its original form did not permit Federal reserve banks to make advances to member banks on their notes secured by Government obligations. This authority was given in the act of June 21, 1917. This amendment, it is true, was a war measure, but it is none the less probable that should it be repealed a number of large banks would withdraw from the System, for the reason that their holdings of commercial paper would not be sufficiently large to enable them to get needed accomodation from the Federal reserve bank in times of stress. It appears, therefore, that consideration should be given to a further amendment which would enable Federal reserve banks to make what are known in England as Lombard loans, that is, to enable Federal reserve banks to make advances to member banks on the security of high-grade municipal, industrial and railroad bonds. Such authority, however, should be carefully safeguarded by a provision that it might be exercised only with the consent of the Federal Reserve Board and under regulations to be issued by the Board, that the rate of interest should be somewhat higher than the official rediscount rate for commercial paper, and that such advances should not be used as security for Federal reserve notes. The need for such an amendment will become more and more apparent as the Government debt is reduced. Furthermore, it seems that some steps should be taken to make the great body of member banks more satisfied with their membership. It is true that National banks must be members, but it is also true, as has been clearly demonstrated in recent years, that National charters are not valued so highly as they were years ago; for in many cases comparatively trivial considerations have induced National banks to surrender their charters and be converted into State institutions.

It is well known that Federal reserve banks were not organized for profit and are not essentially profit-making institutions. It is their purpose and practice to avoid competition as far as possible with their member banks, but experience has shown that in the conduct of their business, the Federal reserve banks can not avoid making profits, in average years exceeding considerably the expenses of operation and the six per cent dividend to the stockholding member banks. Each Federal reserve bank has accumulated a large surplus, in every case exceeding very substantially its paid-in capital. Under the law as it stands at present, Federal reserve banks, after paying stockholding member banks a dividend of six per cent annually, may carry to their surplus fund all the remaining net profits until the surplus equals the subscribed capital (double the paid-in capital), after which

ninety per cent of all remaining excess profits must be paid into the United States Treasury as a franchise tax, the other ten per cent going to surplus. Member banks generally regard this feature of the law as inequitable both to themselves as well as to the Government; they feel that it is not fair to the Government for the reason that because of a substantial increase in the capital stock of a Federal reserve bank during any one year, the Government is likely to be deprived of any tax whatever, although there may be no occasion for so large an increase in the bank's surplus as is now provided for in Section 7 of the Federal Reserve Act. Since the establishment of the System, the Government has received from all Federal reserve banks as franchise tax, a total of $142,826,343. These payments have varied greatly from year to year. For the year 1920 the banks paid $60,724,742 and for the year 1921 they paid $59,974,446, while for the year 1924 the total payments fell to $113,646, and in the year 1925 they were further reduced to $59,300. For the year 1928, franchise taxes to the extent of $2,585,659 were paid by six banks, while the six larger banks in the System, including New York, Chicago, Cleveland, Philadelphia, San Francisco and Boston, paid no franchise tax whatever. This was not because of any falling off in earnings, for during the year 1928, the net earnings of all the banks amounted to $32,122,021. New York, with the largest net earnings, $11,018,433, paid no franchise tax, while Minneapolis, with the smallest, $614,704, paid $390,151. This was because of the proportion of accumulated surplus to subscribed capital. Under the present arrangement, the payment by a Federal reserve bank of a franchise tax to the Government depends not only upon what it has earned during the year but also upon how much its capital stock has been increased as a result of increases in the capital and surplus of its member banks.

From the standpoint of the member banks, it is not unnatural that they should feel that they are entitled to a larger share of the net profits of Federal reserve banks than a mere cumulative six per cent dividend on the amount of stock they hold in the Federal reserve bank. Every dollar of the capital stock of a Federal reserve bank is furnished by the member banks, and the great bulk of the deposits held by the Federal reserve banks is furnished by them also, for the Treasury deposits are comparatively small and are temporary in character, and their value is far more than offset by the services rendered by the reserve banks as fiscal agents. The earnings of Federal reserve banks are derived mainly from transactions with their member banks, and when these considerations are taken into account, it does not seem at all unreasonable that the member banks generally should be dissatisfied with the present arrangement. It has been suggested that the law be amended so as to provide that after the payment of expenses and the annual dividend of six per cent on the capital stock, the remainder of the net earnings should be apportioned as follows: twenty-five per cent to the Government as franchise tax, regardless of the proportion of surplus to capital in any Federal reserve bank; and in those cases where the surplus of a Federal reserve bank does not equal one hundred per cent of its subscribed capital, then a transfer of not exceeding twenty-five per cent of the net earnings

should be carried to surplus; and that all remaining net profits should be distributed among the member banks in proportion to the amount of the capital stock of the Federal reserve bank held by them, or to the capital stock held plus average reserve deposits for the year, as may be determined by the Federal Reserve Board. Had this arrangement been in effect in the year 1928, the amount the Government would have received from the Federal reserve banks as a franchise tax on December 31 last, would have been $5,915,750 instead of $2,585,659.

National banks receive their charters from the Comptroller of the Currency under an act of Congress. They can be placed in voluntary liquidation by a vote of holders of two-thirds of their stock at a regularly advertised meeting. After their depositors have been paid and all obligations of every description have been liquidated, the assets remaining are distributed among the stockholders in proportion to the number of shares of stock held. The Federal reserve banks received their charters also from the Comptroller of the Currency under an act of Congress. Originally these charters were for a period of twenty years, but since the passage of the McFadden Act in 1927 the charters are indeterminate, and solvent Federal reserve banks can be liquidated only by an act of Congress, which body is empowered at its pleasure to terminate the existence of Federal reserve banks. The present law provides that "should a Federal reserve bank be dissolved or go into liquidation, any surplus remaining after the payment of all debts, dividend requirements . . . and the par value of stock, shall be paid to and become the property of the United States."

As the surpluses of Federal reserve banks have accrued from the use of funds provided by their member banks and very largely out of dealings with member banks, it seems to many that this provision for what some regard as confiscation of the surplus fund of a Federal reserve bank in the event of liquidation, is unjust. There is, of course, no reason to assume that the liquidation of any Federal reserve bank is in prospect, but the book value of the stock of Federal reserve banks is approximately three times the amount paid in and will ultimately reach that amount. The Government up to January 1, 1929, had received from all Federal reserve banks franchise taxes amounting to over $142,000,000; but under the law as it stands it is the residuary legatee of the surplus fund of all Federal reserve banks, which on that date amounted to $254,898,352.

A member bank which contemplates withdrawal from the System realizes that, although its stock in the Federal reserve bank is worth nearly three times the amount paid in, its available value in these circumstances is only the amount paid in, or $50 a share; consequently, the large actual book value of its stock in a Federal reserve bank does not act as a deterrent when a member bank is considering withdrawal. If, however, the law should be changed so that in the event of liquidation a Federal reserve bank would be in the same position as a National bank, its member banks would probably receive three dollars for each dollar paid in for their stock and a withdrawing bank would receive $50 a share for its stock and would leave behind the other $100 for the benefit of those members which remain in the System. Is it not possible that a change in the law in this respect might tend to make membership more attractive and reduce the

number of voluntary withdrawals from the System?

In conclusion, attention may be called to the fact that the larger banks and trust companies throughout the country appreciate the value of membership in the Federal Reserve System; but in order to assure the continued successful operation of the System, it seems necessary to retain the interest and cooperation of the great body of small and medium-sized banks whose own independent existence may depend in some degree upon the continued operation of the Federal Reserve System with its mobilization of reserves and rediscount facilities. How best to effect this is becoming more and more of a problem, and it is to be hoped that this question will receive the earnest consideration of the Federal reserve authorities and of the appropriate committees in both houses of Congress.

THE PRESENT CONDITION OF THE ENGLISH COTTON INDUSTRY

By J. WISSELINK

ONE may say that the whole industrial world has been watching the efforts to bring about concentration in the cotton industry as one of the most important economic occurrences of the day. Not only have these attempts been followed by the trade with the keenest attention, but in wider circles the problem has also aroused great interest. This is to be attributed in the first place to the stupendous figures involved and also to the fact that for years the press has been calling attention to the poor state of affairs in Lancashire, so that a general sympathy with the industry has awakened the desire to find a solution of its difficulties.

Whether these difficulties can be effectively solved—or rather what the consequences of the concentration will be—is a question which can be answered only with a large measure of reserve, for the whole problem is extremely complicated and the data are comparatively scarce.

The possibilities of success in industrial concentration and the attainment of the economic objects in view depend to a very great degree on the structure of the industry concerned. Nor can the present difficulties of an industry well be explained without an inquiry into its economic structure.

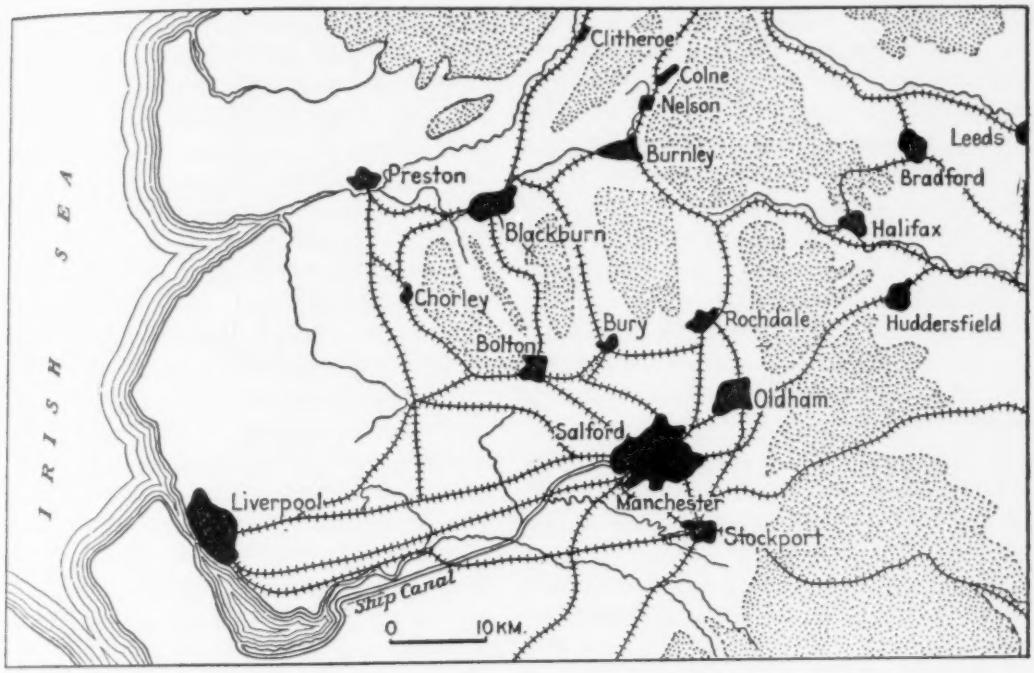
Size, Location and Organisation of the English Industry

As soon as concentration plans came under discussion, combinations of no less than 8,000,000 spindles were mentioned, which is not at all surprising if one is familiar with the dimensions of the industry in England. The English cotton industry counts some 57,136,000 spindles and 795,000 looms, and is still by far the greatest in the world, having about as many spindles as the three countries following in importance taken together, viz., the U. S. A. (35,542,000), Germany (11,153,000) and France (9,770,000).

Besides the spinning and weaving sections, which are almost entirely mechanical processes, England also has a great finishing industry, which includes dyeing, bleaching, printing and mercerizing. In the cotton industry alone no less than 569,950 persons are employed (Census, 1927), while some hundreds of thousands earn their living in industries directly dependent on it; and indirectly there are many more still who do so. Without exaggeration one may say that some 5,000,000 inhabitants of England are dependent on the cotton industry for their daily bread.

This huge industry is located almost entirely within the confines of the county of Lancashire, while the portion that does not fall within these borders (administrative) is situated almost exclusively in those parts of Cheshire and Yorkshire bordering on Lancashire. When one speaks of the cotton industry in England one means Lancashire.

Geographically speaking, the whole industry may be said to have its home in one district, bordered on the east by the Pennine Chain, on the west



by the Irish Sea, on the south by the Mersey and on the north by the river Ribble. But the industry is practised almost entirely in the eastern part of this district.

On looking at the map one is struck by the fact that a tremendous capacity for production is concentrated here in a comparatively small area of about 35 miles in length and 22 miles in breadth. Nowhere else in the world can such a strong total agglomeration be found. Even the Tidewater district in the United States of America with its 10,000,000 spindles to an area of about 35 miles by 25 miles can not compare in this regard with Lancashire. This intense agglomeration may, of course, rightly be regarded as a favourable factor for a technical-economic concentration; it is, however, more of a secondary than primary nature. Generally speaking, it is based to a greater degree on a large number of moderate-sized mills, grouped together in one district, than on very large single factories.

The organisation of production is such that the three chief processes (spinning, weaving and finishing) are carried out separately as a rule; that is to say, they are not done under one roof, nor even in one plant. Those industrial concerns which run several factories also, as a rule, keep to one speciality. The combined spinning and weaving mills, although in the minority, are still found fairly frequently, however; but the border line between the finishing industry and the two mechanical branches is fairly sharply defined.

Marketing, both in its work of collection and of distribution, is also separated from production in its strictest meaning. The greater part of the spinning mills sell their yarns only through commission-houses or agents. The weaving mills, at least those that produce the

grey fabrics, supply merchants, who have the fabric dyed, bleached or printed in the finishing factories and then put on the market at their own risk. Those weaving mills making fabrics which go straight from the looms to the consumer without undergoing further processes often entrust the whole of their sales to commission-houses.

Of late years a tendency has been noted, especially in the finishing industry, to seek immediate contact with the distributing trade and to adopt the method whereby the industry itself accepts the risk. This is the case in a very small section of the industry, however, so that one may still regard the cotton industry as consisting of four clearly defined sections:

I. The spinning mills, which may be sub-divided into:
   A. The mills making coarse and medium yarns, mostly spun from American cotton of a medium staple fibre. (In this class of yarns Indian cotton and Empire cotton are also used.) This is called "the American section."
   B. The mills spinning fine yarns (in England numbered higher than no. 60) mainly from the long fibred Egyptian cotton. This is called "the Egyptian section."
II. The weaving mills.
III. The finishing industry.
IV. The trading houses, more especially the export houses.

The above-described separation is to be observed, not only as regards the organisation of the industry in its spinning and weaving branches, but also in their location. The spinning mills are found more in the southern part of Lancashire and the weaving mills are mostly in the north and north-east of the county. True spinning centres are Oldham (17,330,000 spindles) and Bolton (7,500,000 spindles). Weaving centres are Burnley (108,000 looms), Blackburn (90,000), Preston (73,000), Nelson (60,700), Colne, Accrington, Darwen and Chorley. It should be remembered that in some of the spinning centres weaving mills will be found, just as spindles are present in the weaving centres; but in neither case very frequently.

In the spinning part of the district, as well as in that of the weaving, there are somewhat marked local specialisations: the finer yarns (Egyptian section) are spun in the neighbourhood of Bolton; the coarser kinds (American section) are produced mostly around Oldham. As to weaving, the heavier fabrics are woven (from American yarns) in Blackburn, Accrington, Darwen and Burnley. Blackburn makes dhooties and other goods mainly for export to the East, while Darwen and Burnley are centres of a more general type of goods, but all these four specialise in cheap, comparatively simple fabrics. Burnley produces enormous quantities of simple, coarse and, more especially, medium-weight grey fabrics (printers, sateens, twills, drills), but of late years has also produced more complicated and better goods coming into a higher-priced class. Preston and Chorley manufacture chiefly the more complicated fabrics (complicated as regards pattern as well as colours) included among the better sorts of the medium range. This type of goods is also among the products of Nelson and Colne, but the chief products of these latter places are the lighter and finer fabrics, most of them being very high priced.

The Export Trade and Its Decline

It is a matter of general knowledge that the English cotton industry finds

its chief market in export. Of the yarns produced in 1913 about 11%, and in 1926 about 13%, was exported.[1] The remainder was mostly woven into cloth in Lancashire, and of these fabrics not less than about 86% was exported. The figures for 1912 were 85.9% and for 1926, 85.3%; the annual statistics between 1922 and 1928 do not show great variations. Taking into account the inevitable loss by waste in production and the fact that a small percentage of the yarns is used otherwise than for weaving,[2] one may say, roughly speaking, that about 80% of the production of the English spinning mills is intended for export, either as yarn or in the form of cotton cloth.

The mainstay of this export, however, before the war and now, is the export trade in woven goods. If anything goes wrong with this export, the débouché of the spinning mills is thrown out of gear at once. It is well known that for years the market of the spinning mills has been in a bad way. Since the war, "short time" (or a stoppage of parts of the productive capacity of each mill) has been only too frequent. It is calculated that production has lately been only about 70% of normal, normal being taken to mean all spindles working 48 hours a week the whole year long. The home sales of cotton goods have been fairly regular and have even shown some increase; so the reason for short-time production is very evidently the decrease of exports. The export of cotton goods decreased of late years to about 60% of that of 1913, while the much less important export of yarns diminished to about 80% of what it was formerly. It should be remembered that the number of spindles increased after 1914 by some 1,000,000 (which is about 1.8%), while the number of looms diminished by about 6%.

England supplied, and still supplies, cotton goods to pretty nearly every export market, so that a survey of the course of the world's export of these fabrics is of great interest in this connection. The total export trade of all countries at the present time is about 5% less than it was in 1913. Many countries, among them some of the great importers, such as India, Brazil and China, have greatly enlarged their own industries and today supply their own demands to a far larger extent than before the war; but the English share in the diminished total exports of the world is considerably less than it used to be, as calculated by Daniels and Jewkes from the figures in the Memorandum on Cotton:[3]

EXPORT OF TEXTILES
(in thousands of kilograms)

	Average 1909–'13	Percentage	Average 1923–'25	Percentage	Percentage 1924–'25 of 1909–'13
England	536,837	69.9	369,111	50.5	68.8
U. S. A.	33,465	4.4	42,588	5.8	127.3
Italy	42,910	5.6	58,350	8.0	136.0
France	44,324	5.8	45,374	6.2	102.4
Japan	10,336	1.3	84,188	11.5	814.5
Czechoslovakia	.....	.....	31,082	4.2	.....
India	12,728	1.7	18,674	2.6	146.7
Principal other countries[4]	87,103	11.3	81,348	11.2	93.4
	767,703	100.0	730,715	100.0	95.2

The proportions between the figures relating to the exports from England to

[1] In the Egyptian section the export percentage for yarns is considerably higher than that in the American section. For the latter category by itself it is certainly lower than 13%.

[2] Namely, rather important quantities of Egyptian.

[3] Economic Conference, Geneva, 1927.

[4] Of the principal other countries the export in 1926 was: Belgium, 27,839, Holland, 26,516 and Germany, 19,837; total, 74,192. It is difficult to give figures for every country, as different units are used as basis for the statistics; some take the weight, others lineal yards, lineal metres or square yards and square metres.

the different markets give a fairly accurate idea of the importance of these markets. The following table is borrowed from the paper read by Daniels before the Royal Statistical Society, London, on January 17, 1928:

EXPORT OF TEXTILES FROM ENGLAND (U. K.)

(*in 1000 linear yards; the years 1920–1926 are given in percentages of 1913*)

	1913	1920	1921	1922	1923	1924	1925	1926
East Asia[5]	4,357,711	51	31	45	44	50	44	44
Near East	721,420	101	76	78	82	78	91	50
South and Central America	672,864	78	33	54	76	70	83	63
Dominions	393,220	74	53	101	82	76	81	85
Europe	369,774	102	46	149	89	119	130	88
Africa	333,243	81	53	71	80	84	105	83
U. S. A.	44,415	230	126	218	387	360	199	115

Seeing the percentages in this table, one will agree with Daniels that England has suffered most loss in the largest markets. The ground lost in India is mainly due to the growth of the native industry and to the fact that here Japan has become a keen competitor; it is not the Indian import duties only (increased from 3½ to 11% ad valorem) which have to account for the difference. In China it is Japan which has ousted England from the first place on the market, as is also the case in the Dutch East Indies, and Japanese competition is making itself felt very strongly in East Africa and South America. In the Straits Settlements the trade of the Indian mills has made rapid progress. Italy has directed its export trade mainly towards the Near East, especially to Egypt, but also to Argentina and South America generally. The United States has gained ground in South America also, principally in Brazil, and in Mexico.

The consumption of cotton goods in East Asia, and to a lesser degree in the Near East, consists mainly of simple, cheap fabrics woven from coarse and medium yarns. This is also the case in South America, although not to such an extent as in the aforementioned greater markets. It is clear, therefore, that that part of the industry which produces these fabrics, and the yarns needed for them, is most affected by diminishing exports. The factories working directly or indirectly for this export, whether they make cloth which is sold just as it comes from the loom or that which has to undergo printing, dyeing or bleaching, are found mainly in Burnley and Blackburn. The mills providing the yarns for this class of goods belong to what is called the American Section, of which Oldham is the centre.

The Spinning Industry

It is clear that under the present conditions the mills engaged in spinning as well as those engaged in weaving have their road paved with difficulties, but since 1922 it is the spinning branch which has complained most bitterly. In England the difficulty is attributed chiefly to the poor financial situation

[5] India, 3,057 million yards; China, 773.2 million yards; the Dutch East Indies, Ceylon and the Straits Settlements, 539 million yards. The "Near East" includes Egypt, the southeast Balkan countries, Mesopotamia and Persia.

of many spinning mills. Without doubt the financial situation is bad. It was caused in the first place by the method of capitalisation and, from the viewpoint of sound finance, by the incorrect proportions between own and the loan capital. The amount of own capital of the majority of the spinning-mills has always been much too small and, even without the period of "refloating" and "recapitalisation," only the strongest firms would have been able to hold out without being distressed during the long series of years in which they had to work at a loss. In the post-war period, however, when temporary high profits were accepted as a basis for a lasting higher earning power, many mills were sold at high prices or brought into new limited companies on too high a valuation; while only too often the share capital was watered by the issue of bonus shares in order to provide the shareholders with the chance of making an extra profit by the sale of them. This higher book value need not in itself have caused any serious harm, although it raised (on paper) the costs of production, for a writing down of capital could have redressed the balance. But very often this higher book value was employed to attract still more loan capital either in the form of debenture loans or as bank credits, deposits and so on. In this way a branch of the industry, already somewhat weak financially, weighted itself down with the heavy millstone of the obligation to pay large sums as fixed interests.

In the weaving branch, where the limited-company system seldom occurs, and then generally as a family company, the financing is as a rule far more correct in form, and there never has been much talk of refloating or recapitalisation.

The heavy burden of interest borne by the spinning mills is one of the causes of their weak selling position. The spinners are often forced to obtain cash in one way or another and therefore have to accept even the worst prices. It must also never be forgotten that the yarn spinners always have a high fraction of "indirect cost" in their production costs and that they can therefore temporarily go far below the real costs of production with their selling prices.

Amongst the majority of people most nearly concerned, the spinners, it would seem as if the bad financial position looms so large in their view that they can see nothing else, and they think that a general clearing up in this respect would bring with it a solution of the difficulties. This must be regarded as a faulty argument, for, in the first place, the spindle capacity is too large for the number of weaving looms; the import of yarns into Lancashire has never been of any significance, and the yarn export, even before the war when the whole industry was working at its full capacity, shared in the decline, showing that even when weaving is in full activity there is a slight over-production of yarns.[6] In addition to all these considerations, there is the fact that the weaving mills, the buyers of yarn in this case, have since the war been able to work at full capacity only occasionally, the average being only from 70 to 80%.

There is another reason for the different positions of the weavers and the spinners during a depression. When a branch of production such as

[6] The reduction of working hours since 1913 (from 55 to 48) is the same in the spinning as in the weaving mills. For almost the whole industry it falls within the "no recovery limit," so that the production in both branches is in direct proportion to the hours of labour.

the textile industry passes through critical times of long duration, that part of the production which is closest to the raw materials, in this case the spinning mills, suffers most, even if the production capacities of all the successive stages are in harmony with each other. A finishing plant or a weaving mill, if necessity drives, can more readily take up some other articles, begin something new and force an outlet; the spinning mill can not do so.

It is evident, therefore, that the technical market position of the spinning industry is unfavourable and this is at the bottom of the real cause of the evil. The only thing that can bring about any improvement is a considerable enlargement of demand in the weaving industry. It is undeniable that the bad financial situation of the spinning mills aggravates the evil, but it is in itself only of secondary importance; it can only shorten the lives of the businesses concerned, but the deeper cause lies elsewhere.

The Concentration Project as an Aid to Increased Export

The spinning industry can be revived only if England is successful in greatly increasing its export of cotton fabrics at reasonably paying prices.

In the light of the facts already surveyed, one is inclined to be rather surprised that all the plans for concentration (that of the Cotton Yarn Association was the first to fail) hitherto have been based solely on the idea of an association of spinning mills, together with a financial sanitation. One's own opinion is that the most promising plan is that of the *Lancashire Cotton Corporation*, which since its first appearance, now nearly a year ago, has undergone considerable change. On its first inception this scheme proposed only the absorption of spinning mills, but in its present form it goes much further and includes in the organisation of production the weaving mills and finishing plants. This seems to us a step in the only right direction, namely, towards integration. This plan has the cooperation of the Bank of England and of the other big banks. According to the scheme, it is intended to capitalise the debts, in all their forms, of the spinning mills in such a way that all the old fixed interest burden is cleared away. The ordinary creditors and debenture holders are to receive preference shares and the old shareholders new common shares, each of them according to a fixed percentage of their claim. The corporation will have to pay fixed interests only for the new issue of working capital. The spinning mills will be taken over at a careful valuation, on a basis varying from ten to thirty shillings a spindle, according to their value as an apparatus of production. The layout of the plant, the machinery, the state of repair, the location etc., will naturally be the determining elements. The new capital will be issued in the form of debenture bonds at a fairly low rate of interest. While awaiting the emission, the Bank of England is financing the Corporation and seems to be going to offer great facilities for the emission. Further financial details can be dispensed with at the moment. The projects of the Corporation are directed toward the absorption of some 7,000,000 spindles in the course of the present year. Before the foundation of the Corporation many agreements will have been made, for in April it was officially announced that requests to be included had already been received from no

less than 107 mills, and since then another 90 have been added. These are mostly mills engaged only in spinning; the number of combined spinning and weaving mills must also be considerable, for a short time ago one heard that about 30,000 looms (in combined mills) were included in the above-mentioned applications.

The taking over of separate weaving mills does not seem to have made much headway, attention being as yet centred on spinning.

The other plan to which allusion has been made may be called the "plan of the dissatisfied." It has been projected by the members of the Association of Cotton Mill Directors, which adopted in February a motion whereby the banks were invited to support only such combinations as would be entirely under the direction of "spinners of American cotton for the benefit of the spinners." This is the old system of "horizontal concentration only," promoted this time by a group of spinning mill directors who apparently are loath to give up their functions.

This latter plan seems to be dying already in its cradle. All sorts of fantastic figures have been mentioned as to the spindle capacity promised, but nothing material has as yet been done. It seems that the banks will offer it no support and from a general industrial point of view, not to mention the social aspect, the plan would have to be classified as a "half-measure" and it apparently would only retard a solution.

As matters stand at present, the plan of the Lancashire Cotton Corporation is the only one with a good chance of realisation. Whether one will be able to use the word "success" seems to depend, as far as one can judge, mainly upon the question as to how far the Lancashire Cotton Corporation will go with the integration, and upon the extent to which a rational organisation of production and of sales proves to be possible. It does not seem reasonable to believe that an entire and permanent recapture of the East Asiatic market (chief buyer of cheap, coarse and medium goods) is to be thought of, however far the integration and rationalisation of the industry may go, although there may be a considerable improvement made compared with the present situation. As we shall see presently, the English industry is heavily handicapped in its struggle against the Japanese, Indian and Chinese industry:

1. By its much higher labour costs and indirect costs, the latter ensuing from shorter hours of labour and working with single shifts.
2. By its irrational methods of production and selling.

When one says that the possibility of a permanent recapture of the lost markets from the Asiatic industries is slight, the first reason mentioned is the principal one. To this point we shall return later. The Corporation has directed its care for the present almost exclusively to the second point and even then to a few points of the problem only. The official pronouncements have been confined to the matter of production alone, and chiefly to the production in the spinning branch and the sale of yarns. Nothing has as yet been said as to a reorganisation of the weaving trade. In news items which have been published we have read the phrase "the integration with other branches of the industry" and especially "the acquiring of a considerable number of looms," but, as said before, nothing about a reorganisation of the trade in the finished product—the cotton cloth.

This, of course, does not mean that the leaders may not be considering, perhaps, a combination formed by the great commercial houses or the creation (with the aid of the latter houses) of a new marketing apparatus. One of our Dutch leaders in the textile industry was lately heard to remark that the Lancashire men know very well what they are about and that the eminent personalities there will be perfectly aware of the necessity of reorganisation in that respect also. Moreover, as early as 1927, Mr. Ellinger was pointing out the necessity of concentration in the wholesale trade;[7] his ideas seem of late to have been inspired with fresh life, and from such a combination to interlocking is but a small step. The necessity for this is imperative; for if the selling problem is not attacked very differently, whatever advantages may accrue from the reorganisation of production, they alone would fail to effect any real improvement in Lancashire's position.

Specialisation and Size of Mills

The answer to the question as to what savings will be effected by rationalisation of production can only be given after completion of our interrupted research into the structure of the industry. We resume this study at the point where it was broken off: the primary agglomeration and specialisation.

The cotton goods sold in the export markets, not only in East Asia, but also in the Near East, South America and Africa, generally speaking, can be produced sufficiently cheaply only through economies in mass production by great series.

The higher the standard of wages, the more pressing become the demands for a high standard of efficiency in production. Even in Japan, where the average weekly wage of about 19 shillings (including additional pay) for a working week of 59 hours is usual, only those concerns can put up any serious competition in the export trade which achieve mass production and standardisation. Those American firms which have succeeded in ousting Lancashire from part of the South American markets go still further.

Having regard to the training of skilled labour and to the institution of side-line works in certain districts, one may say that the specialisation in each branch of the industry and in localities has certainly been carried far enough in Lancashire. The specialism practised in the form of one locality, one process, may even be said to have been driven too far as a rule; for mass production in series of many of the export fabrics, we hold the opinion that the big combined spinning and weaving mills, to which in some cases one or more finishing processes may be added with advantage, are certainly more economical.

As far as the spinning mills are concerned, average size of mills and specialisation may be called satisfactory; in many cases one may even say it is good. There are 620 spinning mills and 232 combined spinning and weaving mills in Lancashire.[8] The number of spindles in these mills is 59,908,000, of which 57,136,000 are in use. For statistical purposes one must use the former figure, and thus we obtain the average production capacity (statistical mean) of slightly over 70,000 spindles to each factory; but

[7] Lecture before the Manchester Statistical Society: "The Case for a Guild of Shippers and Some Suggestions."

[8] *Worrall's Directory.*

even when one takes the working figure, without subtraction of the number of mills which are idle, the average is more than 67,000. This average production capacity approaches fairly closely to that which is accepted in the present day as the most economical size of a mill (special circumstances excepted), namely, from 90,000 to 100,100 spindles.

On glancing at Skinners' *Textile Directory*, which enumerates the various mills, it will be seen that at least 200 spinning mills attain or surpass the most economical manufacturing capacity. The very large ones (there are some 30 having 200,000 spindles and more) consist of several units of about 100,000 each, as is the case in America. It is very remarkable that the most frequent type of business is that of 100,000 spindles. The centre of this branch of the industry is Oldham, where the average production capacity is about 80,000 spindles and, at a rough calculation, that for Bolton must be about 90,000 or more. As far as the possible efficiency is concerned, an installation of from 70 to 80 thousand spindles does not differ materially from one of 90 to 100 thousand spindles. The specialisation practised in the mills may also be characterised as satisfactory; even without further investigation, it is already evident from a study of the annual directories that each mill confines itself to the spinning of yarns with a limited range of numbers, even in some cases to yarn of one single kind and number.

Conditions in the weaving mills are different. There are 894 weaving mills in Lancashire, in addition to the 233 mills combining spinning and weaving; this makes a total of 1,127. There are 795,000 looms in Lancashire, giving, therefore, an average production capacity of 705 looms to each mill. This average would appear at the first glance to be much too low, considering that 80% of the whole output is exported and consists mainly of cheap cotton goods, but that opinion is perhaps rather a hasty one. For grey goods and for certain types of coloured goods, striped materials etc., it is certainly much too low an average, but for those factories which turn out the very finest zephyrs, dress goods, voiles and so on, it would exceed the most economical minimum, however paradoxical that may seem. So many diverse kinds of goods are manufactured in Lancashire that one can not fix one average suited to all the factories. If, however, we take an average for Burnley (coarse and medium grey goods, intended for finishing), for Blackburn (medium grey and coloured goods for export to East Asia), and for Colne (fine and medium goods, partly from dyed yarns), and also take into account the specialities, we arrive at a fairly accurate general impression.

The result of such calculations is expressed in the following tables; in the consideration of these figures, however, it should be borne in mind that about 2% of the mills supply no technical particulars and have had to be left out of account, but this slight inaccuracy is not of any consequence to the purpose we have in view. Further, it was found that the word "etc." appears repeatedly after the names of the various kinds of goods made by a mill; therefore, the total number of the various products taken altogether is probably not inconsiderably greater than appears here; and the number of looms that produce on an average one article in a mill will in practise be still lower than the calculated figure.

	Total number of looms	Number of mills	Average production capacity (looms)	Total number of various products in the mills	Average number of looms per product in one mill
Burnley[9]	104,892	121	860	1,622	65
Blackburn[9]	110,955	110	1,009	2,027	54
Colne	23,914	53	450	1,310	18

One noticeable fact is immediately evident, namely, that the average production capacity for a centre of grey goods such as Burnley (printers, twills, shirtings, sheetings, drills, sateens) is lower than that for Blackburn, where coloured (especially stripes) and patterned goods occupy such an important position. It is not necessary to say much more about the average production capacity in Burnley. It lags far behind what is considered nowadays to be the most economical type for mass production in big series, namely, some 2,500 to 3,000 looms. One can come down to 1,800 or 2,000 looms without serious loss of advantage, and such a capacity might be called just sufficient to enable this type of product to compete in the great export markets, but that is certainly the limit.

Now we come to the subject of specialisation, or rather, want of specialisation. The large grey-goods mills of America, with some 3,000 looms apiece, make only a few different kinds of fabrics and, as a rule, 500 to 1,000 looms are producing only one type of cloth. There are some examples of 4,000 looms, all doing one type of cloth, and one even of 11,000 looms. The large Dutch grey-goods mills do not go as far as this, perhaps, but 200 looms to one type of cloth is quite common. This alludes to one fabric of the same technical specification only; for the fact that one finds in Burnley 65 looms for one kind of cloth only is no guarantee that of each kind three or more types may not be made. On the other hand, the possibility exists that a mill may not have orders for every kind of cloth it can make and one or two kinds may remain in abeyance for a time. This does not compensate, however, for the numbers of varieties in every kind of fabric, and one would be quite justified in reducing that "65 looms to one fabric" to about 30, if it were not that even 65 must be characterised as entirely insufficient.

Blackburn makes a somewhat more favourable impression, taking into account the kinds of goods manufactured there. For these products the most economical manufacturing capacity stands at a somewhat lower figure. The types of factory here differ very much, so that it is difficult to fix a single norm; but if a mill works for export in bulk, a minimum capacity of from 1,500 to 2,000 looms is certainly desirable in present-day circumstances. Specialisation is, in this case, insufficient if compared with that of America and Japan. In America similar mills (of about 2,600 looms) make only one or two kinds of cloth as a rule, but in three or four varieties, so that the figures are approximately: 1,000 looms to a kind of cloth and 250 looms to each type. The

[9] Including neighbourhood.

writer saw one mill there running 3,000 looms to one kind-type. It should not be forgotten that the "54 looms to one kind of fabric" of Blackburn have to be compared with the same American figure (looms per kind of cloth) and that is 1,000.

Curious as it may seem, the averages of Colne are not the worst of the three centres, comparatively speaking, that is to say, in comparison with the products, the markets served and the type of manufacture inherent to all. If a manufacturer wishes to maintain a position in the front rank of producers of the finest and most expensive fabrics, such goods as are in the forefront of fashion and the production of which is nearing "industrial art," his factory must not be too large, for in many cases he is himself manager, designer, technical expert and chief salesman. There are exceptions, but weaving mills of this type are mostly not larger than about 200 looms. In America, where specialisation is more extreme, they are even smaller than that number. If one is to offer any criticism regarding Colne, it will relate to the size of the mills in the class following that of the finest, namely, those which make somewhat similar goods, but not in quite such fine varieties, the buyers of which are export houses and the factories of ready-made clothing. Such mills as these usually include in their plant a dyeing house for yarns and in many cases they dye in the piece. If they are to compete successfully they must be of larger capacity and they must standardise and specialise more strictly. It seems that of late the tendency in Colne has been in the direction of departure from the finer kinds of fabrics in favour of the cheaper, coloured export goods, in which case the production capacity is decidedly too small. On the whole, the number of various articles made in these mills is too large and thus the number of looms to each kind of cloth is too small.

We can not refrain from observing that the descriptive appellation "highly specialised," which the Englishman is so fond of applying to his Lancashire industry (one finds it again and again in scientific works on the subject and in reports), could well be dispensed with, at least as far as one important branch is concerned, namely, weaving.

The Finishing Industry and the Trade: Size of Orders and Number of Houses

In the finishing branch of the industry such accurate information is not available as was the case in the mechanical branches. Similarly good technical specifications are not published; moreover, production capacities in the same kind of installation may differ very widely. Certain statistics from various sources were obtainable, but it would occupy more space than would be justified by the results to work them out here. Let it suffice to say that one has the general impression that England has a fairly good finishing industry, sufficiently developed to serve satisfactorily the whole cotton industry in its present condition. The finishing works are generally of moderate size, slightly, if at all, on the small side, perhaps. As to specialisation, the general impression is that it seems to be satisfactory. It should be borne in mind that most of the finishing works are employed "on orders" from the commercial houses.

One trouble which has not yet been touched upon is very prevalent in the printing and dye-works, namely the handling of too small quantities

to one technical specification, which again is the result of a forced acceptance of too small orders. The consequences to working efficiency are no less disastrous than those entailed by insufficient specialisation, although not directly connected with it. In printing works, for example, much preparation has to be done before the actual work commences, and whether large or small quantities are to be printed, those preparations cost roughly the same in time and money: samples have to be printed and a standstill occurs while machinery is cleaned and reset, whatever the size of the order. If this happens very frequently it is fatal to the plant efficiency. The same thing holds good for dye-works, though perhaps to a less degree.

In connection with this problem, let us return for a moment to the weaving industry. In Blackburn and in Colne a similar trouble is encountered in the form of too small orders and too small quantities to a specification, especially as regards designs. The fundamental cause of the difficulty lies, of course, in the organisation of the English trade, which will be discussed at length later. But the manufacturers themselves are also somewhat to blame, as they often set the minimum quantity for orders too low; and when trade is slack they accept orders which they ought to have refused from a point of view of rational production. This is a greater mistake than ever in the present day, as formerly the minimum quantities acceptable were considerably lower than the average size of orders, whereas nowadays very many buyers never order more than the minimum quantity. The larger orders which used to keep the average at a reasonable level, are now generally wanting. So that, as a matter of fact, the minimum quantity acceptable ought to be raised; but keen competition and a chronic want of orders make many manufacturers afraid to take what is otherwise a logical measure of economy.

In addition to which, orders are all too often given at the last moment, so that they have to be given precedence; rather, the merchants insist on their being given precedence. All this causes the setting up of much too short warps on the looms, not to mention the half pay that has to be expended on hands kept waiting. In the small mills, making expensive fashion fabrics such as those in Colne, hurry orders or repeat orders[10] in the middle of the season are only to be expected, and they are distributed over a large number of looms in order to make delivery as quick as possible. This can be regarded as inevitable and inherent in the caprices of fashion and therewith to this type of mill. Notwithstanding which, the working efficiency might often be much better than it is. The case is entirely different, however, as regards the larger mills at Colne, and especially those in Blackburn, where much standard cloth is woven and other goods in which timely orders are quite possible. In these cases, if production and sales were only properly organised, very small orders and short warps need be only exceptions.

The centre of gravity of Lancashire's trade lies with the cotton goods, and the trade in cotton goods depends nearly entirely on exports. This fact is reflected in the division of trading

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[10] This is really a separate problem, which can not be discussed here. It has been touched upon in "The Factors of Location of the Cotton Industry." Further information on repeat orders may be found on pp. 381–383. (For Dutch title see below in note 11.)

houses into "home trade" and "export" houses. According to the *Survey of Textile Industries*, 1928, about 150 merchants are included in the home-trade lists and about 1,000 in those of the export trade. These are commercial houses handling goods after they have left the factories and finishing works. Besides these, there are three or four hundred merchants, commission agents and so on, who occupy themselves with the trade in grey and half-finished cloths, both for home use and the overseas markets.

When one takes into consideration the fact that the majority of this very large number of commercial houses in the export trade consists of small firms, one is bound to arrive at the conclusion that the trade is split up into too many small units, a dividing of forces and efforts. Most of the export merchants are members of the Manchester Chamber of Commerce and belong to one or an other of the following sections, which are formed on economic, geographical or technical lines: Home and Overseas Dominions, Africa, India, China and Far East, Europe and U. S. A., Central and South America, and Egypt, Greece and the Levant.

The commercial houses specialise as a rule in one particular market and very often serve only a small section of it, a custom not unknown among the Dutch houses, with a few exceptions among the largest. In the best cases the house will have its own offices overseas, or else it will have a wholesale dealer (seldom more than one) in those markets, with whom a more or less permanent relation is maintained, so that one may say there is some kind of commercial and technical cooperation, even if not very close. But this is usually the beginning and the end of all cooperation between sales and production. It is true, there are export houses which maintain a regular business with certain weaving mills, especially in Blackburn and Colne, and which send the goods they buy by preference to certain finishing works; for they know by experience that these works will finish the goods to their satisfaction and as they are accustomed to receive them. Nevertheless, a fractional difference in price will sometimes cause the order to be placed with some other firm without any special experience, and where the true costs of production are by no means lower but where orders are only at that moment badly needed. The consequence is, that in the factory which has thus been cut out, all the trouble, calculations and trials have been done for nothing and from the view-point of the industry as a whole must be counted as loss. There are for the big export markets some hundreds of merchants, and for the section of the market served by a small firm there will be at least a dozen or even a couple of dozen competitors as well as outlets. The weaving mill thus can try to get compensation for its dearly bought experience (sometimes special machinery has been acquired for a certain purpose) in the form of orders through a new connection. Of course, the success of such an attempt is not certain and, in any case, it will cost time, involving a lower plant efficiency for the factory insufficiently occupied in the mean time. Here is where the vicious circle meets, for even if the attempt meets with success, Lancashire has no reason to rejoice, for now the new and the old trade connections begin competing with each other and, if the article happens to have been something new and special, in a very

short time the market for it is spoilt, that is to say, the margin of profit becomes so very narrow that neither merchant nor mill is sorry when it drops out of the market.

The extremely keen competition among commercial houses, on the other hand, prevents a weaving mill, or a finishing works working for its own account, from supplying one kind of fabric to more than one merchant, which naturally limits the quantities of one kind of fabric which it can put on the market to the amounts the merchant or his overseas dealer can sell in his district, and to the amount of credit the mill can safely give him.

The complaint is often heard that the representatives of some of the smaller firms lack technical knowledge and even a sufficient knowledge of the export market they serve and its economic possibilities. A big commercial house can cover a much larger field, can establish agencies here and there and sell far larger quantities of the same make of cloth, all circumstances which render a rational production more feasible.

As matters now stand, it is the small size of the numerous commercial houses which hampers the expansion of the factories, and, on the other hand, it is the large number of small commercial houses which make it possible for all the small mills to have their own special export house and thus to maintain their existence. The vicious circle is herewith complete, and as to the rationality of production and distribution, the less said about it the better.

If there were only big commercial houses, better able to fulfill their proper task, even then the mills would be exposed to the danger that, by a sudden rupture of connection, they might be detached from the market for their goods. A right insight into the mutual interests of mills and merchants will prevent such a thing's happening very easily, but without exception a right insight is never present.

Transport as a Cost Factor

It does not fall within the scope of this article to describe all the weak points in the organisation of production and sales, and further technical-economic observations may therefore be dispensed with. There is one question, however, which undoubtedly arises in the mind of the reader and needs an answer, viz., whether a separation of the branches of the industry has no disadvantage from the point of view of transportation. Of course, this will be the case to a certain extent; but it must be remembered that the distances to be covered are very small in this closely concentrated industrial area, and also that there are good paved roads and plenty of railways. Motor transport has greatly reduced expenses, as well as effected a saving of time. On the whole, only the separation of the spinning and the weaving branches may be called a disadvantage, as the finishing processes are usually done in separate plants elsewhere. If one makes a rough calculation of the motor transport costs and expresses them in the cost of goods, they amount at the most to about 0.1% for low-priced printed cotton goods (standard prints), to no more than 0.25% for low-priced bleached cotton goods (standard bleached shirting) and to 0.16% of the cost price for cheap yarn-dyed goods. In making this calculation (motor transport) we have taken the longest distances between mills which are to be found in Lancashire. For the distance between Oldham, the great spinning centre, and Blackburn, where

a large quantity of the Oldham yarns are used, the fractions of the cost price given above may well be reduced to two thirds of those calculated; for dhooties, the transport costs about 0.1% of the whole.

It may be remarked here, in connection with the question of transport costs for raw materials to the factories and for finished goods to the markets, that it has transpired, in the course of investigations into the factors contributing to the location of a cotton industry,[11] that these costs, or rather, differences of transport costs between the districts concerned, have but a very slight influence on the cost price of the goods in the markets, as far as an industry of the English type is concerned. As opinions on the matter differ, however, in connection with foreign competition, it will be discussed more fully later. We should not omit the observation, that as regards the factors: power, climate and water for technical purposes (the chemical processes), the differences affecting the cost prices of Lancashire and also of Holland and Japan are extremely small.

There is scarcely any industry in the world which enjoys such excellent facilities for cheap transport as Lancashire, not only within the district, but also as regards the supply of raw materials from overseas and the dispatch of the finished goods.

America is still the chief source of supply for Lancashire's cotton; a great deal of Egyptian cotton is also used, and a comparatively small amount comes from India. That section of the industry which is our chief concern uses American cotton almost exclusively. The transport by sea is cheap and, generally speaking, does not greatly affect an expensive product such as cotton. The cost of the ocean transport of big cargoes is so little that, for example, the freight price of cotton from Galveston, Texas, to Liverpool or Manchester Docks is only about 0.65 dollar-cent per pound; the carriage from the docks to the spinning mills by rail or road brings the total transport costs to 0.75 cent at the most. Most of the cotton mills in the U. S. A. itself pay 25% more than this in transport costs, some of them even up to 1.2 cents. In Japan, where recently more American cotton is being used in proportion as the mills make better class goods, the average transport costs will certainly be 1.3 dollar-cents for most spinning mills; for cotton from India they will be about 1.2 dollar-cents, calculated on the basis given in the well-known book of the Netherland's Consul de Roos.[12] Nor does the Italian industry, located in the plains of the Po, obtain its raw cotton from Egypt any more cheaply than the mills in Lancashire, the distance from the docks to the mills being so short in England.

As regards the dispatch of the finished goods, the transport costs are very low in comparison with the prices of the goods. For example, the freight from Liverpool to Shanghai is only 2% of the price of cheap, coarse cotton cloth, while the freight to Samarang is still less and so it is to Buenos Aires. However low the freight paid by Japanese manufacturers, they can scarcely have any advantage of importance because of this, even in the neighbouring Chinese market; the same

[11] Wisselink: *De Vestigingsfactoren der Katoenindustrie in de Vereenigde Staten van Amerika* (Rotterdam, 1928).

[12] W. H. de Roos, Consul of the Netherlands at Kobe: *De Japansche Katoen Industrie* (The Hague, 1928).

applies to the industry of the U. S. A. in South American markets. Even the Chinese factories at Shanghai have an advantage in their own markets of only 0.3%. Moreover, the freight prices from New York and from Liverpool to Buenos Aires and even to China do not differ very much, at least not for such valuable cargoes as cotton goods.[13]

The Crux of the Problem

Inquiries into the organisation of production and the location of the modern cotton industry in general have all tended to show that all other factors influencing the cost price are negligible in comparison with the great factor, labour. In the problem of Lancashire one comes to the same result: however one may turn and revolve the problem in one's mind, one always returns to the two points raised from the beginning, viz.:

1. *The standard of wages, combined with efficiency, and the hours of labour.*
2. *Organization of production and of sales.*

The result of the foregoing investigation into the true structure of the cotton industry points to a conclusion which differs greatly from the opinion generally held, namely, that the cause of the trouble is to be found chiefly in the spinning mills and that a rationalisation here, coupled with financial reform, is all that is needed. Regarded from the standpoint of the industry as a whole, in which all the groups stand or fall together, the state of the organisation of production in the weaving branch is in a far worse condition, not to mention even the splitting up of the trade by division among so many small dealers and the badly maintained contact between sale and production.

Improvement can only be effected by a complete vertical combination, spinning, weaving and finishing, whereby, besides the rationalisation of the spinning mills, at least as much attention be paid to the state of the weaving branch, and, above everything, an efficient trade organisation be created. Although less desirable in a technical-organisation sense, much might be achieved by the creation of a corporation consisting of some horizontal combinations with very far reaching interlocking relationships.

Every horizontal combination of groups which stops short of this (the spinning mills only, for example) is only patchwork; after all, a chain is no stronger than its weakest link. In the world markets one is bound by a certain maximum price for one's products, not only by competition, but also by the comparative elasticity of the demand for very many of the products. Whole groups of buyers stand on the very margin of consumption, and in practice one often sees how a 10% increase in price will result in the decline of the quantity of import of that product by about 10% also. A certain group in the industry, let us say the spinning mills, might temporarily, especially after a financial reorganisation, occupy a strong position and obtain higher prices for yarns, but that would only shift the difficulties on to the weaving branch. It would most certainly not effect an increase in the sales.

The Japanese cotton industry is very strongly integrated, especially the exporting section which consists mostly of combined spinning and weaving mills closely allied to large commercial houses having their own offices and warehouses in the export markets. Italy also, which is offering a good deal of competition Eng-

[13] These figures may be found in *De Vestigingsfactoren der Katoenindustrie*, pp. 357–359.

land in Egypt and the Levant, is well acquainted with vertical combinations in its industry, and so is the United States of America. For various reasons the desirability of combined mills is not so evident in Holland as elsewhere; nevertheless, most of the larger firms manufacturing for export combine spinning and weaving in their mills and have, at least for some of the world markets, close and direct connections with large export houses.

Readers of articles in English and other economic periodicals, or in the textile-trade journals, dealing with the difficulties of Lancashire and the proposals and attempts to cope with them, will have noticed that all the conclusions are made without any thorough examination into the economic structure of the cotton industry as a whole; at least, nowhere is it shown or even mentioned. Even Daniels in his highly valuable introduction before the Royal Statistical Society only touched on this point for a moment and dealt with local specialisation. The specialisation of individual factories and the production capacity resulting from primary agglomeration remained entirely outside consideration and so did the organisation of the collecting and distributing trade. B. Ellinger, in the discussion following Daniels' introduction, was the only speaker to put his finger on one of the weak spots, when he said: "through the multiplicity of our merchants and manufacturers we have created for our trade hundreds of thousands of different standards;" but his voice, and that of G. W. Armitage in the beginning of the year in the *Manchester Guardian*, are about the only ones heard on this question. Lancashire as a whole remains with its eyes fixed on the spinning mills, and the greater part of the press does nothing but stress that one point also. The concentration in this branch of the industry is spoken of as if it were the main object and as if, coupled with financial reform, it would save the situation.

It is not to be supposed, however, that the leaders of the Lancashire Cotton Corporation do not see matters in the true light and that they have not had a careful examination made into the structure of the industry, or perhaps they are still investigating. The phrase has not yet been pronounced, but the final object of their endeavours will probably be a complete vertical trust, comprising the spinning, weaving and finishing groups, or, since very many people in Lancashire seem to like that form of organisation better, a corporation of three closely united concentrations from among those groups, in addition to a closely united and very complete sales organisation. It is most likely that before this end is reached opposition will have to be overcome in some quarters and there will be other difficulties (the sales can not of course be stopped during reorganisation), but the reasonableness of this intention is too evident for it ever to be abandoned. That being so, we know that the English, and especially the men from the North country, will not rest until their object is attained. Lancashire can stand a great deal yet and is still a great power.

The industries in other countries will therefore do well to reckon seriously with the possibility of the formation in England of a big complete vertical trust with its own selling organisation, or some equivalent corporation composed of closely interlocked horizontal groups.

Editor's Note: A second article by Dr. Wisselink, indicating the possible improvements in the English cotton industry through concentration, and its effect on competitors, will appear in the April number of the HARVARD BUSINESS REVIEW.

RECENT ENGLISH COMPANY LAW REFORM

By BISHOP C. HUNT

REVISION of the law governing companies incorporated under general acts has been a moot question in England for several years. The Wrenbury Committee of 1918, although concerned primarily with questions arising out of war conditions, dealt with some problems of more than temporary interest. A bill which purposed to extend requirements in regard to the prospectus was introduced in 1924. It did not reach a second reading, however, and in 1925 the Board of Trade appointed a committee to consider the desirability of amendment. Their report,[1] based upon extended evidence submitted by a large number of organizations and upon a wide range of expert opinion, constitutes the first comprehensive review of company law and practice in over twenty years.

A competent critic[2] has characterized the attitude of the report toward existing conditions as somewhat "complacent." In the Committee's opinion some of the more recent abuses were to be regarded as merely temporary concomitants of post-war readjustment, others as an inevitable part of the price to be paid to secure the benefits of "the limited-liability system." The great majority of companies were "honestly and conscientiously managed," and the law was considered to be on the whole satisfactory in meeting the needs of the public and the requirements of private business.

Adhering to the traditional view,[3] that legislation is not a substitute for the exercise of common sense by investors, the Committee refused to advocate "the imposition of statutory regulations and prohibitions calculated not merely to put a stop to the activities of the wrong-doer but to place quite intolerable fetters upon private business." The belief that fraud can be prevented by mere Act of Parliament dies hard.

Nevertheless, the Act of 1928,[4] which substantially embodied the Committee's recommendations, introduced important and in some respects drastic modifications of the existing code, one already stringent from several points of view, especially if compared with many American statutes.

The chief problems examined by the Committee may be considered under the following headings:[5]

Regulation of Issue and Sale of Securities
Accounting and Audit
Directors and Management
Amalgamation and Reorganization
Rights of Shareholders

Regulation of Issue and Sale of Securities

(*a*) *Contents of the Prospectus.* An offer of securities direct to the public through the medium of a company prospectus is a particularly common method of raising capital in England. On the theory that the doctrine of

[1] Cmd. 2657, 1926; *Vide* also, *Minutes of Evidence.*

[2] *Cf. Economist,* June 12, 1926.

[3] *Cf. Gladstone Report,* 1844; *Davey Report,* 1895; *Loreburn Report,* 1905.

[4] 18/19 Geo. V, C. 45. In effect Nov. 1, 1929.

[5] Except where noted to the contrary, reference is had to public companies. A private company is one which by its articles of association (a) restricts the right to transfer its shares; (b) limits the number of its members to 50; and (c) prohibits any invitation to the public to subscribe for any shares or debentures. The private company enjoys several privileges and immunities. *Vide infra.*

caveat emptor is of but limited application, the law already had defined meticulously the information to be exhibited in any prospectus which invited public subscription to a company's shares or debentures. It was, consequently, a sober recital of facts rather than a glowing fanfare of manufactured optimism and gave to investors an opportunity of making an independent inquiry before coming to a decision. Under the new Act, there must in addition be set forth the rights of participation and voting attached to, and dividends paid (or not) on each class of share, and an auditor's report of the profits of the business and of any business to be purchased out of the proceeds of the issue for *each* of the three preceding years.

Further, it has been made illegal (penalty, £500) to issue *any* form of application for securities unless accompanied by a prospectus containing all the required particulars. This regulation, no doubt, is intended to do away with the use of newspaper advertising containing an abridged prospectus with application blank attached. The amplification of the requirements is aimed, in the words of the Committee, to provide the public "with the facts which are obviously most relevant for it to know, the suppression of which is calculated to mislead the unwary." The Committee declined to accept the recommendation of the Associated Chambers of Commerce that the prospectus should exhibit "the total promotion profits made within a period of two years from the original purchase to the last vendor of the company." It was held that such a provision would hamper enterprise to an unjustifiable extent, a greater evil than occasionally extravagant promotion profits.

The new statute has remedied the anomalous position of foreign companies and of the vendors of foreign securities who were not subject previously to the requirements as to filing reports, *et cetera*, or bound by the restrictions relative to the contents of any prospectus issued.

(*b*) *The Offer for Sale.* Conspicuous in preliminary discussions of reform,[6] as well as in the evidence before the Committee, has been a comparatively recent innovation having no legal status, the so called "offer for sale"—employed in many cases to avoid the strict prospectus requirements "as a cloak for a public issue." A company sells a block of its securities to an issuing house, which in turn makes an "offer for sale" to the public in the form of a prospectus. But such an offer, not being made by the company itself, does not fall within the scope of the law, and the directors, therefore, are not liable for the quantity or quality of information given. Obviously, opportunity for suppressing inconvenient details is thereby afforded to the unscrupulous. The Act of 1928 makes law of the recommendation of the Committee that "where the company issues shares in such circumstances and the directors know that there is going to be a public offer, they should be under the same liability to see that the public has proper information as they would be if the company itself were issuing a prospectus." It may be noted also that the "sale prospectus" must contain, in addition to information ordinarily required, a statement of the net amount received by the company from the sale of the securities.

(*c*) *The Minimum Subscription.* Allotment of shares upon insufficient

[6] For example, *Bankers' Magazine*, Vol. 68, pp. 673–80.

capital was considered by an earlier committee on revision to be no less "typical a cause of failure and of loss and disaster to shareholders than the 'loading' of the purchase money"[7] (*viz.*, overcapitalization). An attempt to deal with the problem was then made by requiring that companies prescribe in their articles of association (by-laws) a "minimum subscription" on which directors might proceed to allotment of shares. Practically, because of the low minimum generally fixed, the provision has been useless. The new statute attempts to make the requirement more effective. In addition to information as to the amount and sources of funds otherwise provided, the prospectus is to contain particulars relative to the minimum which in the opinion of the directors must be raised by the issue of the shares in question to provide for:

1. The purchase price of any property to be bought out of the proceeds.
2. Any preliminary expenses, including underwriting commissions.
3. Working capital.

Shares may not be allotted until an amount sufficient to cover such expenditure is subscribed and paid to the company.

In sum, the information which is now made available would seem to afford to the prospective investor the facts fundamental to an intelligent choice. The rationality of the average investor does not concern us here. One may cordially commend the requirement of a larger amount of publicity as well as the Committee's refusal to sanction any relaxation in the law. The objective set up in the earlier report (1895) has been more nearly attained:

> It may be a counsel of perfection to say that a prospectus shall disclose everything which could reasonably influence the mind of an investor of average prudence. But this—the ideal to be aimed at to secure the utmost publicity—is the end to which the new legislation should be directed.

(*d*) *Methods of Sale.* Under the picturesque heading, "Share hawking," the report discusses the problems raised by the sale of highly speculative or worthless securities, particularly those of companies incorporated abroad. High-pressure methods of security selling ("share pushing") either by mail or in the manner of the itinerant and ubiquitous American bond salesman ("personal hawking from house to house") are evidently phenomena of relatively recent appearance in Great Britain.

> In cases where fraudulent misrepresentations are made, the law provides a remedy, but in view of the difficulty of proving the facts, and in most cases of the lack of means in the victims, it is usually found impracticable to institute any proceedings, whether criminal or civil. It is regrettable that frauds of this kind should go unpunished, particularly when the victims belong to the poorer and less educated portions of the community. It is not easy to suggest alterations in the law to protect persons of whatever class who, in the hope of large profits, are prepared, without taking advice, to purchase shares in a company of which they know nothing beyond the flourishing and incomplete statements made by the individuals who offer them. At best their action amounts to the rashest kind of speculation; at the worst it shows a complete absence of the first elements of prudence and good sense. Nevertheless, the evil is one against which, in our opinion, some provision should, if possible, be made. We are under no illusions as to the possibility of preventing the fraudulent from preying upon the unsuspecting, particularly when the latter are eager to speculate.[8]

What are the remedies proposed? First of all, for the following reasons

[7] *Report of Davey Committee*, 1895, S. 26, 27.

[8] *Report of 1926*, p. 92.

the Committee refused to accept a proposal to license security dealers:

1. The practical impossibility of revoking a license on the ground that the holder had been guilty of some misrepresentation without first establishing a *prima facie* case necessitating an elaborate inquiry, the difficulties of which would prove almost insuperable, since in the great majority of instances the companies are incorporated abroad.

2. The fact that the holder of a license would be able so to describe himself would undoubtedly give to any person with whom he dealt a false sense of security.

However, the Committee made two rather drastic recommendations, later adopted by Parliament. In the first place, house-to-house selling of securities ("house" not to include business offices) is absolutely prohibited, on the ground that "the absence of any check upon the verbal statements of the 'hawker,' generally an agent paid by commission, coupled with the fact that the persons approached are in many, if not most instances without any business experience, opens the door to the greatest abuses." In fact, share hawking becomes a criminal offence.

Secondly, with reference to the problem raised by "circularization" of the public, we are reminded that "a share in a company is a class of property peculiar in the sense that there is nothing on its face from which its value can be known or the nature of the company's business ascertained." In the case of a public issue by the company itself or on its behalf, protection is afforded in the information now compulsorily set out in the prospectus. Henceforth, similar particulars, and no others, are to be contained in any circular, in all written offers to persons not engaged in the business of buying and selling securities which are not quoted on any recognized stock exchange, or in which permission to deal has not been granted by any recognized stock exchange. Whether or not this information will serve to put recipients on their guard is perhaps open to doubt, but the obligation to furnish it will probably hamper the activities of dishonest traders without placing any undue obstacles in the way of legitimate business. Contravention of the law is punishable by fine or imprisonment or both, and, there is, perhaps, a still stronger deterrent, the power of the Court to annul any contract made in breach of the provision.

(*e*) *Shares at a Discount.* The question of the advisability of permitting the issue of shares at a discount and, under the conditions prevailing, the inevitably related problem of limiting the amount of commission payable in consideration of subscribing to a company's shares, "one of the chief bugbears in company law," appear prominently in the discussion. Before noting the new provisions, it is necessary to inquire into the origin of "the illogical and indefinite form of the law" previously existing.

Ernest Schuster maintained in his notable paper[9] on the regulation of German companies:

There is one principle which should never be disregarded whenever the privilege of limited liability is conferred by law: the liability of a fund having a fixed and ascertainable value should be substituted for the unlimited liability of individuals. The value of this fund should on the formation of the company correspond with the amount of its nominal capital, and precaution should be taken to prevent, as much as possible, the diminution of this fund during the company's existence.

[9] *X Economic Journal* 3 (1900). See also *Memorandum* and *Evidence* before Davey Committee of 1895.

It may be taken as a cardinal principle of the Act of 1862 (the first great consolidating statute, "the Magna Carta of company law"), that in the case of a limited-liability company, the nominal amount of the shares was payable in full, either in cash or its equivalent. Subsequently, the House of Lords described such payment as the price of the privilege of limited liability.[10] The original principle has been infringed to such an extent, however, that it can hardly be said to exist as a cardinal principle.[11] The equivalence of the equivalent, if one may say so, has not been maintained in commercial practice, enforced by legislative enactment, or upheld by Court interpretation.[12] In general, the Court will not go into the adequacy of the consideration.[13] As Schuster pointed out, "The principle was departed from (in England) by the absence of any provision insuring that the property in which the capital is invested in the first instance is taken over at a price representing its true value."

Nevertheless, the House of Lords in 1892 had refused to sanction the issue of shares at a discount,[14] holding that there was nothing to justify the notion that that which the statute required to be paid in cash, subject to the qualification as to form of payment, should not be paid at all. This decision notwithstanding, the principle of issuing shares against a *quid pro quo* of cash or property was in fact undermined before the Act of 1900, which in legalizing the payment of a commission in consideration of subscription to shares—offered to the public—merely enabled direct and open achievement of what had previously been accomplished in practice by "loading" the purchase consideration in cash and shares which the "vendor" of the company received. However, this Act opened the door to more or less complete emasculation of the "cardinal principle," inasmuch as no limit was placed on the amount of commission which might be paid if authorized by the company's articles. The Davey Committee of 1895, on whose recommendation the new provision was enacted, pinned their faith on disclosure of the facts to safeguard the public.

The matter was again reviewed in 1905. The Loreburn Committee considered that the concession had been judicious, that it had not been abused, and declined to limit the amount of commission, holding it "better to leave each company, as the best judge of its own necessities, to fix the rate of commission for itself, provided there is full disclosure." In practice, the amount has often been 75% to 80%—clearly not a *bona fide* underwriting commission.[15] Although the committee recognized that this was in effect the equivalent, they refused, quite illogically it would seem, to sanction straightforward issue at a discount[16] upon the formation of a company. Although they did go so far as to approve of its use at a later stage, there was no enactment.

It remained for the Wrenbury Committee of 1918 to face the problem squarely. Principle having already

[10] Lord Macnaghten in *Ooregum* v. *Roper*, 1892, A. C. 125.

[11] *Cf. Wrenbury Report*, 1918, Cmd. 9138, S. 45.

[12] *Vide* opinion of Halsbury, L. C., case cited.

[13] *Re Wragg, Ltd.*, 1897, 1 Ch. 796; *Vide* also Topham, *Company Law*, 6th Ed., p. 88.

[14] *Ooregum* v. *Roper*. In contrast to companies (public utilities) formed under Companies' Clauses Acts, 1845, *et seq.* *Vide Stratham* v. *Marine Pier Co.*, 1899, 1 Ch. 199.

[15] *Vide* Evidence, 1926, App. M, xxvii.

[16] It remained illegal: *Re Pitkin & Co. Ltd.*, (1916) W. K. 112.

been abandoned, they recommended legalization of the *fait accompli* as a matter of expediency, as a "further concession to commercial experience that would probably do no harm"—"openly to permit what under the law as it stands at present can in fact be achieved by payment of a commission."

In the recent evidence one advantage was repeatedly stressed,[17] namely, that to be derived from greater ease in raising new capital at a time when a company's shares may be selling below par, perhaps enabling it "to avoid having to resort to the sometimes disastrous method of raising capital on debentures at a heavy discount," and making possible in reorganization the maintenance of a homogeneous capital structure. The Committee concurred in the findings of the Wrenbury Report and the substantially favorable current opinion. Accordingly, power is given under the new statute to issue at a discount shares of a class already issued not less than a year after commencing business and with the sanction of the Court, which will presumably provide the essential safeguard, inasmuch as no limit has been placed on the amount. Disclosure is to be made in the prospectus and on the balance-sheet until written off. Further, the amount of commission payable has been limited to 10%, an underwriting charge in the genuine sense of the term.

There is still weight in Schuster's observation, that "the amount of nominal capital with which a company is started is purely arbitrary and need not stand in any relation to the value of the assets by which it is represented." Wide latitude in the valuation of property against which securities are issued is possible in the absence of any definite check such as exists in German law, even though preliminary contracts are open to prospective investors (as in England), and it is doubtful if the courts would uphold a capitalization that is purely illusory.[18] However, the absurdities inherent in the provisions in regard to the payment of commission have been removed and the privilege of issuing at a discount, carefully guarded though it is, should prove useful in practice. And, although opportunity still exists to make an unfair distribution of the equities of a company at promotion, perhaps the matter is not so important a question as Schuster maintained. Certainly creditors are more interested in the character of assets than in nominal capital; the maintenance of an equivalence between property and shares after promotion obviously depends on the success of the enterprise.

(*f*) *Shares of No-par Value.* Intimately related, and to some minds the logical sequence of the condition of the law and of allowing commission and discount, is the question of shares of no-par value. British law continues to preclude their issue. In spite of weighty opinion in favor, and though recognizing force in the familiar contention that the removal of the nominal element from the face of a share certificate would by so much prevent deception of the public, the Committee remained unconvinced, or at least felt unable to advise on what in their opinion would involve "alteration in the law of a radical nature," *viz.*, to allow the capital of a company to consist of the aggregate sums obtained

[17] *E.g.*, Paragraphs 194, 827–9, 1127.

[18] *Cf.* Topham, *op. cit.* p. 87.

by the sale of such interests as a share represents and might command. The general tenor of the proponents' argument is similar to that of the claim so often advanced in America: the education of the public to the realization that a share represents a mere aliquot part of the net assets—that nominal value is "nothing more than a snare and a delusion." The change would force the investor to look at the balance-sheet, "to ascertain and inquire for himself what is the value of a share." No account seems to be taken of the fact that after removal the problem of valuation would still remain. The chief merit of the proposal[19]—that of relieving a company of dilemmas and expense in altering its capital, in enabling the issue of shares at a price not below par, regardless of current market values—while recognized, does not seem to be widely appreciated. The fiction of equivalence still dominates, and issue at a discount is to be the avenue of escape in time of need.

It may be mentioned here that the right to issue redeemable preference shares has been given under the new Act, though in fact carefully restricted. Further, the practice of a company in providing money for the purchase of its own shares has been prohibited, except in the case of loans made to employees for the purpose or in the ordinary course of business.

Accounting and Audit

Extensive and much needed, though in some respects inadequate, reforms are introduced in the matter of accounts and reports, their form and content, and their availability. Requirements under the old law were astonishingly meager. There was no direct statutory obligation to keep proper accounts or to draw up balance-sheets. Such financial statements as directors cared to render to shareholders were often models of obscurity.[20] The information published by holding companies was often unintelligible, if not actually misleading. The annual return has been described as "a nondescript document not having the good points of a balance-sheet"[21] and, because of a fault in the statute, it was permissible to file the same statement year after year.

Information of a scanty nature—defective books—often comes to light in cases of liquidation. Henceforth, directors will be liable to heavy penalties if "proper accounts" have not been kept, "such books or accounts as are necessary to exhibit and explain the transactions of a company" with respect to:

1. Receipts and expenditures and the matters in reference to which they take place.
2. Purchases and sales, annual stock-takings, and (except in the case of retail business) sufficient data to enable buyers and sellers to be identified.
3. Assets and liabilities.

Every balance-sheet is to contain a summary of authorized and issued capital; of assets and liabilities, with particulars necessary to disclose their general nature—distinguishing between fixed and floating assets and setting forth the basis of valuation of fixed assets; to state separately (in so far as not written off) expenses of organization and underwriting, good-will and other intangibles; to exhibit loans to

[19] *Cf.* Bonbright, 38 *Quarterly Journal of Economics*, 449 *et seq.*, 1924.

[20] Cf. *Britain's Industrial Future*, pp. 85–87 (the *Liberal Report*).

[21] Registrar of Joint-stock Companies, Evidence App. A.

any directors, investments in or loans to or from subsidiaries; and, if any liability is specially secured or preference shares are redeemable, to add a note to that effect.

Presentation in annual meeting of a balance-sheet and profit-and-loss account (content of the latter not specified) is made compulsory for the first time. (With this exception, the profit-and-loss account "continues a private and confidential document;" it need not be filed, circulated among shareholders or produced upon their request. In fact, it is not the practice[22] of one concern in a thousand to disclose anything beyond totals.) Attached to the balance-sheet there must be: (1) the auditor's report, which no longer may be merely referred to; and (2) a report by the directors in regard to (a) the state of the company's affairs, (b) dividends, and (c) the amount carried to any reserve shown on the present or to appear on a future balance-sheet. This latter provision seems to imply that directors are free to establish secret reserves.[23] The Committee did not consider a recommendation to make obligatory the creation of a general reserve fund, as is required under French and German laws.[24]

The position of the auditor as "guardian of the rights of shareholders" is strengthened by giving statutory sanction to what is already the best professional practice in some matters: no partner or employee of any officer is qualified for appointment; auditors are entitled as a matter of right to attend and to address any general meeting before which accounts are to be laid. The provisions of the Act to prevent a company from indemnifying a director for negligence or breach of trust are to apply *pari passu* to auditors. The Committee refused, however, although urged by the London Chamber of Commerce, to recommend a more explicit and detailed definition of powers and duties, on the ground that such would "confine the law within the bounds of a rigid formula."

Old problems have appeared in new garments in the guise of the holding company, only in comparatively recent years a conspicuous form of organization in England. The position in which shareholders often find themselves has been well described as "appalling."[25] For instance, a holding company's capital may be invested entirely in a number of subsidiaries, each of which is a private company and therefore under no obligation to file or publish a balance-sheet of any kind. Shareholders legitimately complain that without information more detailed than that provided by the "legal" balance-sheet, the "accounts" are unintelligible. Further, "in law there is nothing to prevent a holding company from using dividends received from profit-making subsidiaries in order to pay a dividend on its own shares, without taking into account losses suffered by the others. The effect may be that the parent company is paying a dividend at a time when the group as a whole is in debit on the year's working."[26]

There is a marked cleavage of opinion as to just what information, if any, ought to be provided. Should separate publication of the balance-sheets, *et cetera*, of subsidiaries be required, or, as an alternative, an

[22] Evidence, Par. 926.
[23] *Cf. Economist*, Aug. 18, 1928.
[24] Evidence, App. FF., Memo. of Society of Incorporated Accountants.
[25] *Times*, June 5, 1925.
[26] *Report of 1926*, S. 71.

amalgamated statement to embrace the entire undertaking? The consolidated balance-sheet (like no-par shares, "an American invention") has been vigorously attacked. It has been argued, in the first place, that to present "a conglomeration of assets and liabilities of separate companies as being those of an individual entity" would be misleading to creditors, for the assets, *et cetera*, of a subsidiary are not those of a holding company.[27] To others, an exhibit of the concern's position as a whole is so obviously valuable that it would be "better to disregard the technical and legal situation and to assume the parent company as owner of the assets and as responsible for liabilities and the interests of minority shareholders."[28]

The issue of the separate statements of subsidiaries to supplement the "legal" balance-sheet, urged by high accounting authority, has also met sharp objection, on the score that the information would enable competitors to single out for attack the more profitable branches of a business and that in any case "to know the way in which subsidiaries stand, and which branch is profitable and which is not, is a privilege to which shareholders are not entitled."[29]

The new provisions are somewhat disappointing. Private companies are to continue to enjoy their present exemption from filing accounts of any kind. Even the Report of 1905, following which the distinction was first introduced, did not favor the exemption. The Committee also declined to recommend the consolidated statement, believing that such a matter should be left to shareholders. However, there is to be annexed to the legal balance-sheet of the holding company a signed statement as to how profit and loss of subsidiaries has been dealt with (aggregate figures may be shown) and, in particular, to what extent:

1. Provision has been made for losses of any subsidiary in its own accounts or in those of the parent company.
2. Losses have been taken into account by the parent company in arriving at its own profit and loss.

The prevalent attitude toward publicity has been suggested. Some thirty years ago, as eminent an authority as Buckley (later Lord Wrenbury) seriously argued that to require companies to publish their balance-sheets would "work an infinity of mischief . . . would deal a death blow to limited liability . . . would give the system such a shock that it would go out of fashion"[30]—all on the score that a concern "could not profitably trade remuneratively if competitors knew its results." He held that there is no ground, because persons take advantage of limited liability, for throwing upon any obligation to do that which a private trader is not bound to do. This view may perhaps be tenable with regard to the small private company, and the distinction between private and public companies offers a valuable suggestion with regard to American corporation law, the provisions of which are generally applicable to all corporations, without regard to size or scope. However, secrecy is no inevitable privilege of private business generally. The new Act deals a long overdue and not altogether mild blow to what has been termed "the instinctive secrecy of the British busi-

[27] Sir A. Whinney, *Times*, June 3, 1925.
[28] Garnsey, *Holding Companies and Their Accounts*, p. 61.
[29] Evidence, Par. 3777.
[30] Before House of Lords Committee, P. P. 1898, IX 392.

ness man." Some measure of publicity is to be secured by the requirement that all companies file with the annual return their latest balance-sheet with documents annexed, send it to shareholders before the annual meeting and provide a copy upon application to any holder of shares or debentures.

"Periodical accounts if honestly made and fairly audited can not fail to excite attention to the real state of the concern." So wrote Gladstone in 1844. He was no timid advocate of compulsory publicity as a remedy for corporate ills. The new provisions are undoubtedly a positive step in advance, despite the glaring omissions mentioned, especially the absence of any requirement to place on view the relevant information as to profit and loss. The criticism of this section of the Report put forth by the *Economist*[31] seems well taken: "The Committee takes up a too professional attitude and never seems to have envisaged that with the growth in size and power of great joint-stock companies, their published accounts have become a matter of public economic interest, and that the revision of company law should be approached not merely from the point of view of the company itself but from that of what the public ought to know." The conservatism of the Committee is pointedly suggested in the following remark of the Chairman in answer to an argument for increased publicity of accounts on the ground of the public interest: "The Committee is not entitled to recommend an amendment which is based on some particular view of social policy or advantage —our object is not social reform but the business administration of the Company Law."[32]

[31] June 12, 1926.
[32] Evidence, Par. 5115.

Directors and Management

The law in regard to directors has been made more stringent in several ways. In particular, the liabilities attaching to a directorship are substantially increased. A recent case[33] brought home forcefully the quite unjustifiable exemption given to directors by the so called "wilful default" clause, commonly inserted in the articles of a company to relieve them of liability imposed by the general law of negligence and breach of trust and making it impossible to hold them even for gross negligence[34] or, in fact, for anything short of actual dishonesty. Any such provision becomes void. However, realizing that "under modern conditions it is in many cases quite impossible for every director to have an intimate knowledge of or to exercise more than a quite general supervision over a company's business—that a director is often appointed because of some special knowledge or because he is in a position to obtain business," the Committee urged that in determining whether or not a director ought to be excused, the Court should take into account all the circumstances relating to his appointment. The statute so provides.

A director is placed under obligation to disclose to his colleagues any interest he may acquire in any contract with the company. An undischarged bankrupt who acts as a director or takes part in the management of any company without leave of the Court, or any director who is knowingly a party to failure to keep proper books, is liable to fine and imprisonment; he is liable to penal servitude for obtaining property on credit under false representation or pretense that the company is carrying

[33] *In re City Equitable Co.*, 1925, 1 Ch. 407.
[34] *In re Brazilian Estates*, 1911, 1 Ch. 425.

on business. If it appears that business has been conducted with intent to defraud creditors, directors are liable to an unlimited extent for all debts of the concern.

In the past it has been a common practice for directors, in a case of merger, to be compensated by the purchasing concern for loss of office. Not infrequently the information has been kept from the knowledge of shareholders. Such suppression is forbidden. Not only must the facts be disclosed, but shareholders must also give their approval. Perhaps such payment should be prohibited altogether.

"Directors being trustees of shareholders should not accept such gifts from outside parties having relations with the company, since their acceptance is apt to be misconstrued."[35] Mr. Baldwin has warned against "parasitic directors who claim a kind of freehold appointment and oppose rationalization unless bribed to retire."[36]

One or two other problems invite mention. Directorships are in many instances assignable at the will of the holder. Such a practice "deprives a company of all effective control over its directors and managers, and the holder of the office is in a position to force upon the company for his own profit any person, whether suitable or not, who is willing to pay a price."[37] The statute unfortunately does not embody the Committee's recommendation that such assignment be void unless sanctioned by special resolution. Directorships of this category are literally "the pocket boroughs of the present day," although this characterization by the Liberal Report[38] was applied with reference to the fact that in the vast majority of instances, because of the diffusion of ownership, vacancies on a board are filled by co-option of existing directors, partly as a result of which a director considers himself entitled to office for life and expects to be succeeded by his son. Aside from nepotism, a directorship is too often considered as a pleasant sinecure and a desirable vested interest.

"There is a vital difference between the responsibilities of those charged with the administration of public companies and of those who are engaged in business on their own account with their own money, or in partnerships or private companies. The finances of a public company are provided by the public, and the directors are the trustees of its affairs. As such, it is their primary function and duty to protect the interests of the shareholders."[39] The question of the qualifications of directors naturally suggests itself. First, from the technical-legal point of view: the Companies' Act does not in fact require a director to be a shareholder, although the London Stock Exchange insists on this as a condition for listing and the articles of most companies require it. On the one hand, it has been urged that every director should have a substantial qualification—"ought not to act unless he has a substantial interest in it himself—such a financial 'stake' as would give confidence in his action."[40] On the other hand, the Committee shared the view of those who point out that a compulsory qualification might prevent the election of an able man who has little, if any, capital to invest, that "the holding of a large number of shares has no correlation to an individual's business capac-

[35] *Times*, Nov. 14, 1928.
[36] *Ibid.*, Nov. 23, 1928.
[37] *Report of* 1926, S. 54, 55.
[38] *Op. cit.*, p. 90.
[39] *Times*, Nov. 14, 1928.
[40] Evidence, Par. 679.

ity or special professional knowledge." The law remains unaltered.

Secondly, with regard to qualification in the sense of ability and fitness to direct, to render the company valuable service, and to protect the interests of shareholders, some interesting suggestions have been advanced. Mr. Baldwin has expressed the opinion that more rigorous qualifications should be demanded—that "the 'guinea-pig' director should be relegated to his proper place—the museum." The Liberal Report urges compulsory retirement at the age of seventy. Undoubtedly dead wood reposes on many boards—"There is in their constitution an actual and potential element of inefficiency and conservatism in older established British businesses."[41] Directors are too often appointed for reasons other than possession of ability—e.g., because they have "a nice-sounding name" which will lend to the concern a color of respectability and social distinction. They are frequently "expert in nothing at all."[42]

How prevent the wide-spread peril arising from well-meant bungling of incompetent directors? In view of the difficulties that obviously inhere, doubts as to the effectiveness of any attempt at legislative solution of the problem of appointment are quite understandable. Immunity from liability has without question lain long at the seat of many abuses. Schuster's pungent statement, "Whereas German law requires the diligence of a prudent trader and presumes negligence in case of loss, English law recognizes but a shadowy liability for 'negligentia' and presumes diligence,"[43] will no longer hold quite so fully—the new measure will make directors more easily accountable. It may give some pause to "the mere thoughtlessness or loose thinking which causes members of the honorable professions to join the boards of numerous companies without even the qualification of some technical or business knowledge and experience."[44]

Amalgamation and Reorganization

As is well known, there has been in England since the War a marked tendency towards amalgamation in various fields. The Act of 1928 takes some definite steps to facilitate the technical process in those cases which fall within its compass. First, it is declared that a company may amend its memorandum so as to obtain express power to amalgamate. In some instances, in order to preserve good-will or unassignable property rights, it is necessary to effect the amalgamation by a transfer of shares rather than by a sale of assets, to maintain certain units intact but at the same time to acquire the entire share-capital. "Holders of a small number of shares of the company taken over (either from a desire to exact better terms or from lack of real interest) frequently fail to come into an arrangement which commends itself to the vast majority—with the result that the transaction fails to materialize."[45] To remedy what may be in effect an oppression of a majority by a minority, the purchasing concern has become entitled, as a matter of right, where the transfer has been sanctioned by 90% of the shareholders concerned, to acquire the shares of non-assenting holders on the terms accepted by the others. The minority may appeal to the Court on any question of value or oppression.

[41] *Op. cit.*, p. 90.
[42] Registrar of Companies, Evid. Par. 582.
[43] *Vide Report of* 1895, p. 19.
[44] *Times*, Nov. 14, 1928.
[45] *Report of* 1926, S. 50.

Further, the Court is given power to approve schemes for amalgamation so as to provide, if desired, for the dissolution of any company involved without the necessity of winding up. In the case of "reconstruction"—the process by which a company is put into liquidation and the assets sold to a new company formed for the purpose, with a share capital so arranged that such of the shareholders who assent take shares in the new company with a further liability, and those who do not are paid off in liquidation—the Court may sanction compromises with creditors and shareholders, the adjustment of capitalization and equities, having regard, of course, to minority interests.

Rejuvenation of a company by reconstruction is objected to on the ground of expense and because of the prejudice created in commercial circles by "winding up." As a cheaper and simpler alternative, the Wrenbury Report proposed to allow assessment of shareholders. Except in cases of amalgamation, the Committee could suggest no other means of avoiding a winding-up, but, in view of a considerable divergence of opinion, made no positive recommendation.

The new Act modifies the effect of a recent decision,[46] which held that a collateral obligation imposed by the articles of a company upon a member, involving in certain events a liability to take further shares in the company, can be enforced, despite the fact that his liability to contribute in liquidation is limited by the Act. Notwithstanding any such article, no shareholder may henceforth be bound, except by his own specific agreement in writing, to any alteration in the articles which may require subscription for additional shares.

Rights of Shareholders

Consideration was given to some of the questions which cluster about the important general problem of intra-corporate rights. One phase in particular of the divorce of control from ownership—the preferred shareholder's lack of voting power—is held up as "vicious." "Often an existing business turns itself into a company. Old members take ordinary shares in payment for the property. Non-voting shares are sold to the public; . . . the business is 'worked' on money so obtained. The owners sell their business but do not part with it."[47] The preferred shareholder's position is considered to be analogous to that of an unsecured debenture holder—the mere absence of security is sufficient reason for giving him all the incidents of property ownership, especially a voice in control.[48] It was vigorously urged[49] that a statutory right to attend and to vote at general meetings, although a serious departure from present practice, ought to be given to all members irrespective of the class of share held. However, the Chairman took the view that such an innovation would represent "an interference with individual freedom of action. If a man chooses to invest on such terms, why shouldn't he? It is not a function of the Legislature to interfere with freedom of contract to that extent."[50]

The conflict of interest between shareholders of different classes has come into forceful relief in recent years

[46] *Agricultural Society* v. *Biddulph*, 1927, A. C. 76.

[47] Evidence, Par. 1017, *et seq.*

[48] *Ibid.*, Par. 4649, *et seq.*

[49] By committees of the Stock Exchange and Associated Chambers of Commerce: *ibid.*, App. D.

[50] Evidence, Par. 1021.

with the frequent alteration, under modification clauses in the articles, of the rights of preferred holders in companies which have found themselves unable to pay the high rates of dividend borne by preference shares issued during and immediately after the war. "The rights of preferred shareholders are insufficiently guarded, for when severe losses are incurred the ordinary shareholders are able to throw part of the loss upon the preference holder, whose privileges of participating in increased profits are small or do not exist, and whose responsibility for losses should be correspondingly restricted."[51] Frequently, in meetings on alteration of rights, ordinary shareholders, being preference holders also, vote for some scheme affecting the rights of the preferred holder, but having in mind their own interests as ordinary holders. "Extraordinary and very unfair alterations against the interest of one particular class have been made because often only a few of them realized what was happening, and many did not attend the meetings because they knew they would be swamped by the votes of those with other interests."[52] The Committee refused to restrict the use of modification clauses, believing that they serve a most useful purpose, and they did not consider it practicable to prohibit ordinary shareholders from voting at a meeting of preference holders, finding "the remedy to lie in giving to the Court in proper cases a power to review the resolution of a class meeting." The dissenting holders of not less than 15% in the aggregate of the shares affected are now entitled to apply to the Court for review.

The wide-spread diffusion of ownership, the vastly increased opportunity for public participation which has accompanied and is in a very real sense the development of the joint-stock company, makes possible a concentration of control in the hands of a unified minority without correlative responsibility. Owners of a comparatively small proportion may swing the destiny of vast amounts of capital. There comes to mind the question as to whether the ordinary legal concept of a corporation as a representative democracy squares with the facts, or whether some rather fundamental modification in theory and structure is not inevitable. It is open to doubt whether voting power is the shareholder's significant and all-sufficient safeguard.[53] The typical shareholder is a purchaser of income, not an entrepreneur—his position is in considerable degree analogous to that of a beneficiary under a trust.

All in all, the reforms to be instituted, though reflecting the conservatism already suggested as characterizing the views of the Committee, are by no means negligible and they should meet adequately many of the most obvious abuses. On the whole, they will tend to pry open a little wider the traditional secretiveness of English corporate enterprise and they will guard further the interests of the small investor.[54]

[51] Memo. Soc'y Inc. Accountants, *ibid.*, App. FF.

[52] Topham, K. C., in Evidence, Par. 1139, *et seq.*

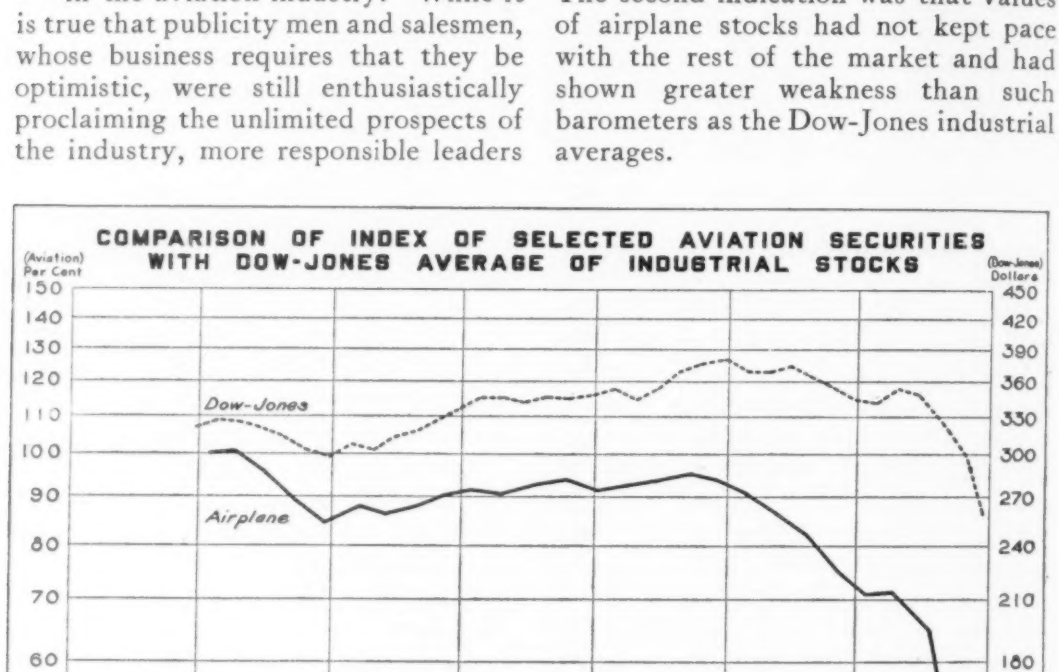
[53] *Cf.* Ripley, *Main Street and Wall Street*, Chap. IV, *passim.*

[54] Since this article was written (May, 1929), the *débacle* of the so called Hatry group of companies in September has brought to light Machiavellian methods of finance and has testified with dramatic force to the necessity of reform. In fact, the recent experience may well serve to justify the contentions of those who have maintained that the new law is not sufficiently far-reaching, especially in the matter of accounting requirements and holding-company practice. Unfortunately, the Act of 1928. with the exception of the provisions in regard to amalgamation and "share hawking" (Sections 53 and 92), did not go into effect until November 1, 1929.

THE OUTLOOK FOR AVIATION

By DAVID H. STROTHER

IN the fall of 1929, a distinct note of uneasiness became apparent in the aviation industry. While it is true that publicity men and salesmen, whose business requires that they be optimistic, were still enthusiastically proclaiming the unlimited prospects of the industry, more responsible leaders had already shown signs of pessimism in their predictions.[1] Apart from this, two definite indications were apparent to prove that the progress of the aeronautic industry as a whole was not meeting expectations. Production figures clearly showed that the total number of planes manufactured in 1929 would probably be between 5,000 and 6,000, whereas earlier predictions had ranged from 10,000 to 20,000. The second indication was that values of airplane stocks had not kept pace with the rest of the market and had shown greater weakness than such barometers as the Dow-Jones industrial averages.



Aviation as a recognized industry of importance received its greatest impetus following the spring of 1927. To many observers, the success of Colonel Lindbergh's flight from New York to Paris in May, 1927, marked the beginning of the rise of the aviation industry. A large number of small companies was immediately started, some of them having distinctly better possibilities than others because of inherent advan-

[1] "Overexpansion in Aeronautics"—Frederick B. Rentschler in *Magazine of Business*, July, 1929.

tages, such as design of product, sales organization, banking affiliations and government contracts.

By the first of October, 1929, most of the aeronautic companies of importance were included in mergers, nearly all of which had been consummated in the year preceding. In fact, during the 12-month period prior to October 1, 1929, the whole concept of the aviation industry had been changed from that of a great number of small companies to a few large integrated companies dominating the industry.

Major Groupings in Aviation

The mergers which have occurred represent varying degrees of integration and a combination of different types of companies. Some of these groups are more compact and better balanced than others. In all instances some companies included in these groups have shown greater strength in proportion to their size than the group taken as a whole. Consequently, if the situation before the mergers took place were in existence today, the prospects of these strong companies would be better under existing conditions than are the prospects of the groups of which they are members.

The United Aircraft and Transport Corporation, Incorporated, one of the strongest of the groups, is a combination of manufacturing and operating units which were joined together by the National City Company. Included in this grouping are the Pratt and Whitney Aircraft Company, manufacturers of large radial motors; the Boeing Airplane Company, builders of mail and military planes; the Chance Vought Corporation, builders of military planes; and other subsidiaries, most of which are strong. The United Aircraft and Transport Corporation, through these manufacturing subsidiaries, supplies a large amount of equipment to the Government and thus has a stable backlog for its other activities. This company aims mainly at the large airplane and motor market. Except for its subsidiary, the Stearman Aircraft Company, which manufactures some planes in the lower-price classes, United Aircraft and Transport makes no attempt to reach the inexpensive sport-plane market. Two of the operating lines which it controls, Boeing and Pacific Air Transport, are among the most strategically situated and the best operated of any in the country. In 1928, however, most of United Aircraft and Transport's income came from two subsidiaries, the Pratt and Whitney Aircraft Company and the Boeing Airplane Company.

The Bendix Aviation Corporation is a combination of companies supplying parts and accessories to the automotive and airplane industries. The term "Aviation Corporation" as applied to this company is in a sense a misnomer, as the larger portion of its income is derived from the sale of automotive rather than airplane parts. This organization is composed almost exclusively of parts and supply companies, although it owns an interest in Roosevelt Field. Because of the fact that much of its business is outside of aeronautics, Bendix should suffer less from a depression in aviation than most of these companies.

The Curtiss-Wright Corporation is a merger of two of the oldest and strongest aviation companies in the industry. Primarily a manufacturing organization, it controls few operating companies, and according to Mr. C. M. Keyes, its president, it intends to make no further acquisition of transport companies. The two motor-manufacturing

subsidiaries, the Wright Aeronautical Corporation and the Curtiss Aeroplane and Motor Company, produce engines of practically every class and horsepower in use today. While the claim has been made that Curtiss has directed its activities toward the smaller plane field, and it undoubtedly has important subsidiaries which are producing in that class, yet planes manufactured by such subsidiaries as the Curtiss Caproni Corporation and the Keystone Aircraft Corporation, and such products as the recently built Condor —an 18 to 25 passenger plane—could hardly be interpreted as falling within the small plane classification. Like United Aircraft and Transport, the Curtiss-Wright combination gets a good share of government business, although it covers a wider field of manufacturing activity than the former company.

The Aviation Corporation (Delaware), the fourth of the larger groups found in aviation, controls a number of subsidiaries, most of which are operating rather than manufacturing companies. The Fairchild Aviation Corporation, with its subsidiaries, is the Aviation Corporation's only manufacturing unit. Because it was formed later than the other combinations and so was tardy in making affiliations, the Aviation Corporation was not successful in obtaining as strong a group of subsidiaries as its competitors. In fact, the corporation was in the position of a holding company with much money to spend and little for which to spend it. Its attempt to obtain control of the Fokker Aircraft Corporation of America was unsuccessful because of opposition from the General Motors Corporation, the largest single holder of Fokker's stock.

Additional groupings have been formed, the most important of which is probably the Detroit Aircraft Company, which includes among other subsidiaries the Lockheed Aircraft Company and the Mahoney-Ryan Aircraft Corporation. Others, such as Allied Motor Industries, Incorporated, and several small holding companies controlling one or two of the less important companies, are also in existence.

Since the aviation and automotive industries have many similar manufacturing problems, it is not surprising to find a closer financial relationship between these two than between aviation and any other industry. The General Motors Corporation owns approximately 22% of the stock of the Bendix Aviation Corporation and 40% of that of Fokker Aircraft Corporation of America; further interest is indicated in the development of a Diesel engine for aircraft in its laboratories. The Ford Motor Company owns the Stout Metal Airplane Company, which manufactures the famous Ford trimotors. The Auburn Automobile Company through one subsidiary, the Lycoming Manufacturing Company, builds an airplane motor, and through another subsidiary, the Cord Corporation, was taking steps in October, 1929, to acquire the Stinson Aircraft Corporation, a plane builder. The Packard Motor Car Company has been one of the leaders in the development and design of large horsepower, water-cooled engines and has recently developed a Diesel engine for aircraft.

The brief description given is in no sense a complete picture of the whole industry. A number of small plane and motor manufacturers have no affiliations but occupy positions of importance. For example, there

are the Bellanca Aircraft Corporation of America, the Douglas Aircraft Company, Incorporated, the Alexander Industries, Incorporated, and the Waco Aircraft Company. But the dominant position is held by the previously mentioned companies.

The question may well be asked as to why these mergers were formed. In one respect the movement toward combination has been a defensive gesture. Leaders in the industry have been following something of a blind path and are frank in admitting that they do not know the source of their ultimate support. By combining a number of companies the chances for success of the group are much better than the chance of any single company. In other words, the principle employed is simply a diversification of risk. It is true that the degree of success of the group will probably be less than that which one or two of the outstanding members might achieve alone, but most leaders are willing to forego the chance of greater profit in order to lessen the risk of loss.

Another factor which has tended toward the merging of a number of companies has been the struggle to obtain outlets and markets. It has been possible to start manufacturing airplanes with very little capital and to obtain additional capital easily as it was needed. The result has been that many small companies have built up a strong following in their own communities. Big companies trying to obtain sales outlets in those territories have preferred to acquire the small companies rather than enter into keen competition with them. In a number of cases the cash or stock given for the small company represented "nuisance" value rather than the acquisition of a definite manufacturing or operating asset.

One of the greatest motivating factors was the prosperous condition of the country and the activity of the stock market when interest in aviation first became apparent. From 1927, when aviation began receiving support, up to October, 1929, the country as a whole had been prosperous. During this period the stock market had reached unprecedented levels and the volume of trading had been beyond the predictions of the most ardent optimists of a few years before. There had been much money available for investment and speculation.

Although a relatively new industry, aviation is practically unique in having been supplied with more money than it could use. So great has been the public enthusiasm for aviation that it apparently was only necessary to put the word aviation in the title of a company to insure it ample capital and to send the price of its stock skyward.

In view of this situation, is it any wonder that enterprising investment bankers, capitalists and chambers of commerce took advantage of the situation? The merging of independent companies gave opportunities for creating organizations with much wider popular appeal. Undoubtedly, the stock of a large well-advertised company is easier to sell than that of a number of smaller independent companies. Investment banking enterprise and influence may, therefore, be taken as one of the primary reasons for the mergers which have been consummated.

Three investment banking houses stand out from a view-point of aeronautics; the National City Company, which sponsored United Aircraft and Transport Company; Lehman Brothers, which engineered the Aviation Corporation; and Hayden, Stone & Company,

which has probably been the most active house in the aeronautic field.

Merits of Aviation Mergers

Among the advantages which can be derived from mergers of this type, the following are of major importance.

(1) Research can be conducted more effectively and economically. The aircraft industry has still much to learn concerning planes and engines. The formation of large companies or groups of companies permits the establishment and support of adequate research and engineering staffs which small companies can not afford.

(2) Economies can be effected in the marketing of aircraft, engines and accessories. Often several lines of planes and engines would support a dealer's branch, whereas one product would not be sufficient.

(3) Competitors are much less likely to gain control of sales and service. This possibility was evident in the case of the Wright Company while it functioned as an independent. Arrangements had been made with an air line to supply service to Wright engines over its territory. There was a rumor of this line's being taken over by the Curtiss-Keyes group, which was manufacturing a competing motor. Actually the Curtiss-Wright merger was consummated before this air line was taken over, but the possibilities for the situation noted were existent with its obvious disadvantages.

(4) There should be an assurance of a preference of the products of a subsidiary over that of an outside manufacturer throughout the organization.

(5) The advantages common to other large-scale industries should be obtained, such as the opportunities to obtain money more easily and cheaply, to acquire a higher grade of management and to secure the stability attendant upon diversity of endeavor.

The arguments for mergers, however, are by no means one sided. One of the greatest benefits that has been cited for mergers along a vertical path, the ability to control manufacturing processes from the raw material to the consumer and thereby effect economies, can not be applied to aviation. In the steel trade, for instance, vertical integration has resulted in marked economies along the lines mentioned. In aviation no such opportunity of manufacturing economies exists. In the manufacture of airplanes and engines, processes are entirely different, the first being largely an assembly process employing much hand labor, while the second is largely a machine process. Since manufacturing problems are entirely different, there is no economy to be gained in manufacturing planes and motors together. In fact, in the consolidations mentioned, planes and motors are not manufactured together; separate plants are utilized.

An expensive overhead of a central office has to be carried by subsidiaries, whose problems are quite different. The operating company, if included in this structure, may be forced to use an inferior engine or plane, while this partial assurance of market may mean that a company is allowed to manufacture an inferior product, whereas if it had to compete actively it would either improve its product or go out of business. The inference to be drawn is that individual companies will show more activity and efficiency than would the larger unit where all activities are combined under one head.

Again, in widely scattered plants situated all over the country where problems are quite different and where the only real claim to relationship is the name aviation and some banker's visions, there is going to be difficulty in coordinating activities and managing these activities efficiently from a central head. Each enterprise will have about the same managerial structure as if it were an independent, and will have

in addition a superstructure of costly central management.

Many additional objections can be raised. In fact, outside of research, control of sales outlets and possibly greater safety, there appears little justification for the formation of these merged companies from a manufacturing view-point. However, when practically all business has been tending toward large companies, the formation of mergers of this character is to be expected and, if the trend continues, an independent may be forced to join some group to save its market and to be able to meet competition on an equal footing with companies already included in groups.

This last assertion is particularly applicable to motor, manufacturing companies. These companies may soon find themselves in a very trying position. The fact that their product is excellent will avail them little if a depression in the industry cuts off the few remaining independent plane manufacturers. They will be virtually without a market. Of course, they will still be in a position to compete for government orders, but the class in which most of the independents are operating, namely the small motor field, is not one where the Government places many orders.

Under existing conditions, large-scale companies overshadow the aviation industry. Whatever the merits or disadvantages of this condition, it is one that has to be realized. It will be increasingly difficult for an independent plane or motor builder to start operations and become successful. The fact that a company such as the Aviation Corporation (Delaware), which has plenty of money, a distinguished directorate and good connections, has been unable to obtain many subsidiaries which are prosperous at all, augurs poorly for a small independent starting business, unless that independent possesses an outstanding competitive advantage, such as some valuable patented feature. Patents are becoming less and less valuable, however, because most of the fundamental ideas have been used widely and are therefore not patentable. A few features which are really worth while are patented from time to time, and while it is possible that some one invention may revolutionize the whole industry, this at present is rather improbable.

Valuation of the Aviation Industry

The size of companies mentioned has facilitated financing, and the public has responded handsomely with its money. What is the industry going to do to merit the confidence that has been displayed by the public? Are valuations of the companies in the industry as appraised on the stock market warranted, or have they been pushed up by speculators and bankers? Is the enthusiasm for aviation which has been displayed really deserved or has it been carried far ahead of the real merits and earning power of the industry?

It is evident that the value of such property is in the final analysis based upon earning capacity. Otherwise junk value is all that can be considered. Probably at no other time in the history of the United States has the future been discounted as heavily for any industry with promise as it has been during the bull market extending into 1929. It has not been uncommon to see stocks of companies, whose future was believed to be bright, selling for 30 to 40 times earnings. The aviation industry has been no exception to

this state of affairs, and stocks of companies in which the outlook was considered especially favorable have been selling at values as high as 40 to 50 times estimated earnings.[2] Speculative activity and public enthusiasm can carry stock prices to high levels, but these levels will not be maintained unless there is commensurate earning capacity evidenced.

Just what the relationship between earnings and valuation should be varies widely from time to time. In 1922, when the Bethlehem Steel Corporation bought the Midvale and Cambria Company, the price paid amounted to approximately four times the average earnings of Midvale and Cambria over a 5-year period. Such a value appears ridiculous in 1929 for a company with good prospects.

Under present conditions it is hard to say what percentage a stock should earn on its valuation. No rule can be laid down, for such intangible factors as prospects of the industry, position of the company in the industry and degree of public approval have to be considered. In the present instance let us assume that over a long period the industry will have to earn 10% of the appraised valuation to maintain that valuation. This proportion is undoubtedly high in comparison with present relationships of earnings to valuation, but, because of the speculative character of the industry, it is considered a fair one.

The appraised value of the aviation industry was well over $1,000,000,000 at the high point of the market in 1929. On September 12, 1928, the market value of the stock of the four groups described was approximately $550,000,000. Since there was a great number of airports, hangars and other aeronautical-equipment companies in this country, stock in which was not listed on any exchange, it may be said with a degree of certainty that the public's appraisal of the aeronautic industry was well over $1,000,000,000 as of the first of October, 1929. The aviation industry would have to earn $100,000,000 annually to maintain its appraisal value under the conditions assumed. If indications were apparent that this amount could be earned next year, stock prices would undoubtedly hold and probably would go higher.

Prospects for Earnings

A rough assumption would place the portion necessary for manufacturing companies to earn at $67,000,000. According to figures released by the Aeronautic Chamber of Commerce, 2,854 planes were produced at a value of $17,032,747; the average value, therefore, of all planes produced in the first half of 1929 was approximately $6,000. Let us assume again that out of this $67,000,000 which would have to be earned by aviation manufacturing companies, $40,000,000 would have to be earned by plane and motor manufacturers. This assumption appears reasonable, for some products manufactured by so called aviation-equipment companies are sold outside of the aviation industry; for example, automotive accessories of the Bendix Aviation Corporation. If net profit per airplane is placed at 15% and the average value at $6,000, then $900 would represent the average net profit per plane (including motor). At this rate approximately 45,000 planes would have to be manufactured to give the desired earnings.

[2] Fokker Aviation Company, 44 times earnings; Curtiss-Wright Corporation, 60 times earnings. *Wall Street Journal*, October 23, 1929.

It is realized that these computations involve a number of assumptions which are open to criticism and argument. Yet there is a sufficient amount of truth in the picture presented to warrant considerable thought from anyone interested in the industry. Can 45,000 planes, or even one half that number, be manufactured and sold?

At the beginning of 1929, Major Lester D. Gardner, President of the Aeronautical Chamber of Commerce, estimated that airplane production for 1929 would be around 10,000 planes. Other predictions ranged as high as 20,000. Reports given by the Aeronautic Chamber of Commerce for the first half of 1929 indicated that 2,854 planes were manufactured during that period. If the same rate of production is maintained for the second half of the year, the total plane production for 1929 would be 5,708. In reality, under ordinary conditions the aviation industry has decidedly seasonal characteristics, and one would expect the bulk of business to come in the spring. It is evident, therefore, that sales of planes will not approach earlier predictions.

Another factor which has to be considered is the number of pilots who would be required to man these planes. The number of licensed pilots as of September 1, 1929, was 7,466, while 1,546 more licenses were pending.[3] These figures do not include all pilots, but the fact that a license is required to operate an airplane in crossing a state boundary means that most capable pilots have obtained licenses. From these figures it is evident that the number of persons available to operate planes is decidedly limited. A more promising picture is presented by the fact that some 24,000 student permits have been approved which in time may add considerably to the list of pilots.[3] However, only a portion of these permits will result in pilots' licenses being granted. The majority of students from one cause or another fail to become pilots.

Although learning to drive an automobile is easy and the knowledge once acquired is lasting, learning to fly takes much time and has to be practiced continually. A long lay off from flying usually means that many of the fundamental steps have to be repeated. Moreover, only a limited number of people are physically and mentally qualified to become pilots under present conditions, so that unless revolutionary methods of control are introduced, planes can never have the wide vogue that the automobile has. There are also the factors of time and expense to be considered in connection with learning to fly. How many persons can afford either? It is a question well worth considering.

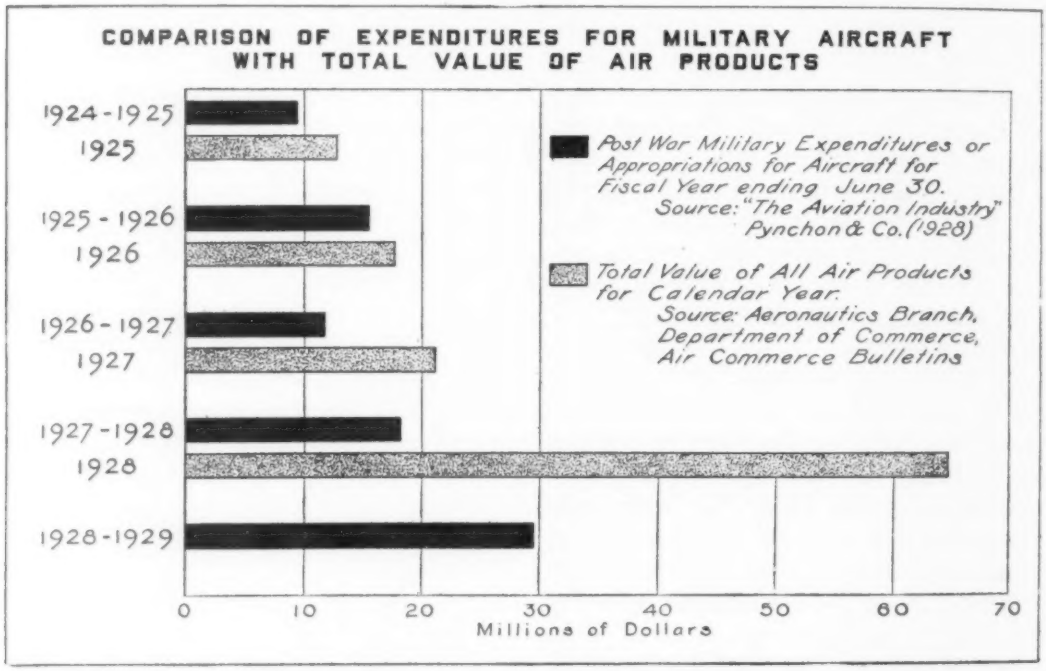
The earnings of several leading companies for 1928 were:

Wright Aeronautical Corporation (Curtiss-Wright Corporation)	$2,433,771
Pratt and Whitney Aircraft Company (United Aircraft and Transport Corporation)	2,704,190
Curtiss Aeroplane and Motor Company (Curtiss-Wright Corporation)	796,224
Boeing Airplane Company (United Aircraft and Transport Corporation, Incorporated	1,690,970
Bendix Aviation Corporation	6,166,045

These records, although impressive, can not be taken as a complete indication of the success of commercial aviation in its entirety. The nature of the markets served must be considered. During 1928, 47% of Wright's business was supplying the Government with motors; Pratt and Whitney's govern-

[3] *Air Commerce Bulletin*, September 15, 1929.

ment business during the same period amounted to 50% of its total.[4] A large portion of Curtiss' business came from the same source. Boeing's chief markets were the Government and air-mail lines. On the other hand, most of the business of the Bendix Corporation was with the automotive industry. All the large aircraft—manufacturing companies which have evidenced marked prosperity, have had a big proportion of their total business with the Government or else have made much outside of aviation. The following chart gives a comparison of the value of military and commercial products.



Another source of income which presents itself whenever the support of the industry is considered is the transport company. The only way in which most transport companies have been able to make money is through an indirect subsidy in the guise of air-mail contracts. When it is considered that the Government gets a minimum of 80 cents a pound and a maximum of probably not over $2 a pound for air mail, it can readily be seen that, as far as the Government is concerned, air-mail contracts as high as $3 a pound are a losing proposition.

Public enthusiasm, easy capital, and speculative interests have greedily absorbed any stock connected with the aviation industry without considering whence the support of the industry was to come. Barring revolutionary changes, there are distinct limitations to the uses of aviation. It is not likely that this industry will supplant other means of transportation to the extent that many of its enthusiasts have predicted. While undoubtedly the use of airplanes has a definite place of importance in our economic structure, the publicity given to this development has been out of all proportion to its present worth.

[4] *Wall Street Journal*, March 18, 1929, and April 15, 1929, respectively.

PUBLIC UTILITY RATE REGULATION

By JOHN A. RYAN

THE articles by Professor Philip Cabot[1] on public utilities and rate regulation are sufficiently fundamental—not to say revolutionary—to deserve a critical examination. He not only questions the efficacy of regulation in practice but attacks the underlying theory. Public utilities, he maintains, are in the main not of a monopolistic character; even to the extent that they enjoy monopoly power, they can be best regulated on the assumption that they are subject to indirect competition; therefore, the commissions should aim at regulating prices rather than profits.

The success of regulation is today questioned by many persons who would not agree with the central thesis maintained by Professor Cabot. Some of these are believers in public ownership, while others reject that alternative, holding that the necessary and sufficient remedy is to be found in better laws, better technique and more efficient personnel for the regulating commissions. Professor Cabot's criticism assails the central principle or aim of regulation, namely, service at cost through limitation of profits. The attempt to reduce this principle to practice permits, according to his contention, excessive operating costs and excessive rate bases. Since the managers are restricted to a definite rate on investment, they have no incentive to reduce operating costs, which often amount to 75% of the gross earnings. Savings in operating expenses would provoke reductions in rates by the regulating commissions, leaving the companies with no more net profits than they enjoyed under higher rates and less efficient operating methods. In the second place, the present system of regulation encourages the adoption of excessive rate bases through excessive construction costs and excessive valuations. The higher the rate base, the higher the profits for the companies. In other words, the companies lose nothing from inefficient operating methods, while they gain from unduly high rate bases. The consumer suffers from both these factors.

Obvious Correctives

Inefficient operating methods and excessive operating costs could be prevented through adequate supervision by the regulating authorities. Proper systems of accounting and the requirement of comprehensive reports could be imposed upon the utility companies. Apparently no general attempt has yet been made to secure these results. "Only thirty-two states have authorized their commissions to control the accounting of the utility companies in all its phases, yet even in these states control of accounting methods has not been altogether successful . . . Failure to supervise the accounts of utilities is one of the primary weaknesses of state commissions."[2] Until a systematic and wholehearted attempt is made to correct these conditions, the charge that the present theory of regulation necessarily

[1] *Harvard Business Review*, April and July, 1929.

[2] *Electric Utilities—The Crisis in Public Control*, by Mosher and Others, p. 29.

permits or condones financial irregularities and wasteful operation will remain unproved.

As to excessive construction costs, excessive prices paid for utility properties and all other methods of inflating capitalization, the obvious preventive is supervision and control of the securities issued to cover these expenditures. Apparently many of the regulating commissions are unable to exercise this control because they lack the legal authority or the money or the ability or the good-will. In all such cases, the evil results to the consumer are clearly due to deficiency of regulation in practice rather than to any defect in the theory or the institution.

Excessive burdens on the consumer, on account of excessive valuations and costly litigations over valuations, are real and of considerable magnitude. They will be greatly increased if the Supreme Court should definitely confirm the policy and rules laid down in the Indianapolis Water Company case. In that event, regulation will have failed, not because of anything in the process itself, but because of an ethical theory of value imposed upon the commissions by the Supreme Court. The only adequate relief from that evil condition would come through public ownership and operation. Even if the utilities had to be purchased at reproduction cost, or at some figure approaching that level, there would be a definite gain for the consumer. The rates which he would be called upon to pay could be lower than under private operation because of the lower rate of interest at which the public authorities could obtain the necessary capital for purchasing the properties. At present a rate of 7% is common, while 8% is not unknown in the "fair rates" fixed by the courts. In the Indianapolis Water Company case the Supreme Court allowed a valuation of $19,000,000 and a rate of 7%. Even if the city of Indianapolis had to pay that amount for the property, it would be able to effect a considerable saving to the users of water ($380,000 annually), inasmuch as it probably could obtain money at 5%.

Professor Cabot would reject this proposal as a general remedy for excessive valuation on two grounds: first, that public operation is less efficient than private operation and second, that all the utilities except water companies are competitive and can best serve the public by being treated and regulated on this assumption. The first of these objections is sufficiently refuted by the achievements of the Ontario Hydro-electric, the Port of New York Authority and a large number of successful municipal utilities throughout the United States and Europe. The second objection involves the central thesis of Professor Cabot's constructive proposals and will be dealt with in later paragraphs of this paper.

Although he points out the evil effects of excessive valuations, he rejects the rule of prudent investment. His reasons, however, are not ethical but purely economic. Prudent investment as a rate base would not, he maintains, bring about "stability in terms of purchasing power, the only kind of stability in the markets in which these public-utility services must be sold." One might inquire why such stability is any more necessary for the utilities than it is for the concerns that produce wheat, shoes, steel or any other commodity. The owners of all these run the risk of finding that their dollars have fallen or risen in purchasing power between the beginning and the end of any year.

From this point of view Professor Cabot's argument has very wide scope and by implication calls for a stabilized dollar. At any rate, his assumption that, because utility rates on the prudent investment basis are lower than "the index figure for other services and commodities," they would greatly accentuate a general level of high prices, is pretty far fetched. No matter upon what basis rates be fixed, whether prudent investment or reproduction cost or some point between these, the demand for utility products and services would increase to some extent during a boom period. The utility companies would be compelled to enlarge their plants and facilities accordingly. That the amount of demand and the consequent enlargement of plant would be so much greater in case of a low than in case of a high rate base as to cause a notable rise in the general price level seems to be entirely improbable. When prices are rising, all the available capital is put to some productive use. If it were not put into public utilities, it would be employed to inflate production in some other field.

A Valid Objection

There is one fundamental respect in which Professor Cabot's attack upon the prevailing theory and practice of regulation is valid. It has to do neither with ineffective regulation nor with juridically imposed rules of valuation. In fact, the more effective the regulation, the more powerful will be the temptation confronting utility managers to follow the undesirable course indicated. Regulation necessarily discourages managerial initiative, efficiency and progress, since it aims at transferring these gains sooner or later from the utility to the consumers in the form of lower rates. For example, a utility company may, through improved methods of management, be able to earn 12% on its valuation; as soon as this becomes known to a vigilant commission the latter will reduce rates to such a level as to enable the company to earn only 7% or 8%. If the company is forever prevented from earning more than a fair rate of return, regardless of its savings through greater efficiency, why should it strive to be efficient? Why should its managers not content themselves with that mediocre and routine kind of operation which will enable them to obtain just the allotted rate of return?

To this objection there are two answers. First, not all the gains of efficiency can be immediately transferred by the commission to the consumer. The fact that the company is enabled through improved methods of operation to make more than the allotted rate of profit does not become known to the commission until the end of the fiscal year. Hence, the gains of efficiency produced during the preceding months are secure in the treasury of the company. Even if the commission should immediately take steps to reduce rates, some time must elapse before they go into effect. In the mean time the company will still be reaping the unusual profits due to unusual efficiency. After the new rates go into effect, the company will have the opportunity to reap new gains through additional improvements until such time as the commission takes cognizance of the new situation and makes a further reduction in service rates. Whether this opportunity of securing temporary gains will provide a sufficient incentive to managerial efficiency and progress depends upon circumstances: upon the

energy and initiative of the managers as well as upon the speed with which the commission moves to capture the new gains. At any rate, the opportunity is of sufficient importance to weaken considerably the contention that regulation necessarily destroys all incentive to efficient management.

The second answer to the objection is that managers should be permitted to retain from year to year a definite part of the gains of efficiency. This principle is recognized in the recapture clauses of the Transportation Act which permit a railway company to keep for itself one half of the net profits above 6%. There is no reason why the method should not be applied to all public utilities. It is entirely sound, both ethically and economically.

Almost all the objections, observations and arguments dealt with in the foregoing paragraphs have been set forth in many other places than in the articles by Professor Cabot. The really distinctive and challenging feature of these two articles is his attack upon the regulatory principle of service at cost. This regulatory principle assumes that prices are determined by cost, whereas, says Professor Cabot, "some of the shrewdest merchants of our time tell us that the fact is exactly opposite—that prices determine costs—not costs prices." Therefore, he suggests that "the attempt to regulate profits be abandoned, and that instead profits might be regulated indirectly, as they are now in the competitive trades, through the skilful regulation of price."

Prices and Costs

The assumption that prices determine costs is a very misleading species of half-truth. "Some of the shrewdest merchants" may, indeed, give expression to this formula, but all they mean is that a reduction of prices is sometimes followed by such an increase in demand as to justify reductions in costs through quantity production. Henry Ford and his low-priced cars provide the best known example of this sequence. Even in such cases it is not accurate to say that prices determine costs. Low prices may be regarded as the psychological cause of enlarged demand, which may, in turn, be designated as the psychological cause of mass production; the latter is the efficient and objective cause of low costs, which, in turn, become the psychological cause of low prices. By a psychological cause is meant, of course, a factor which produces its effect through the human mind and the human will. As between costs and prices, therefore, the true causal relation runs from the former to the latter. No matter how great the depths into which prices and costs have fallen, the latter still set the limits to the process of descent. The most efficient quantity producers will not continue operating unless they obtain sufficiently high prices to cover all their costs of production.

"The cost of a cotton mill," says Professor Cabot, "has no influence on the price of sheets." This is another half-truth. It applies only to *some* cotton mills. It can not truthfully be predicated of the most efficient concerns operated by the most efficient managers. If the latter can not sell their products at a sufficiently high price to provide normal returns on the money invested in their mills, they may, indeed, be content for a time with returns that merely cover the cost of operation. If this happens, the higher-cost mills will cease to produce. As a consequence, the supply of cotton

sheets will decrease sufficiently to provoke an increase in price. The higher prices will enable the most efficient mills to cover all their costs of production, including the current cost of capital.

All this is elementary, but it seems worth stating in view of the implications of the language used by Professor Cabot. The costs of operating public utilities can not be reduced arbitrarily and indefinitely through the simple device of reducing prices. As a matter of fact, the possible range of the method, even in actually competitive industries, is not very extensive. When all its possibilities have been utilized, the fundamental fact remains that the lower limits of prices are fixed by costs.

The goal which Professor Cabot sets before the regulating commissions is prices fixed "at the point which would give the largest volume of service at the greatest total profit." Undoubtedly the utilities do seek this end, however clumsily and ineffectually. According to Professor Cabot, a more intelligent pursuit of the end would give lower rates to the consumer. He would have this more intelligent course revealed to and imposed upon the utilities by the regulating commissions. If this proposed identification of producers' and consumers' interests is feasible, why has it not been accomplished by the utility companies themselves? Why do they not reduce rates sufficiently to justify "the largest volume of service at the greatest total profit"? Professor Cabot replies: "Many men are blind to their own best interests and to the interest of those they serve." Let us concede that this is true, not only of "many," but of the majority of public-utility managers. Nevertheless, the enlightened minority should be able to see the greater profits to be derived from mass production and lower prices. Such a minority exists and functions in every private industry. How comes it that universal blindness in this respect afflicts the public utilities and only the public utilities? The assumption is extremely improbable.

The Question of Monopoly

Professor Cabot ties up his assumption about the elasticity and docility of prices with his contention that public utilities are not monopolistic. In this connection he mentions particularly electric, gas, telegraph and telephone companies. Under all four heads his arguments are unconvincing for the following reasons.

In cities where both gas and electricity are furnished by the same company, there is not even potential competition in street lighting, except in so far as it is always possible for the municipality to establish a plant of its own. The check which this possibility places upon extortion is not of itself sufficient to protect the public.

Speaking of the telephone business, Professor Cabot says: "The temptation to use monopoly power to limit production, which is the only way in which monopoly power can be abused, has disappeared." One would like to see the concrete evidence for this statement. Does Professor Cabot maintain that the telephone companies could never nor anywhere reduce charges and at the same time obtain fair profits on their investment? Or that they always refrain from unnecessary and unjustifiable rate increases? His observation about limiting production is misleading. A monopoly does not limit production for the sake of limitation. Its primary

aim is maximum net profits and it strives to fix prices accordingly. If it finds that its maximum production can not be sold at the price which will bring maximum net profits, it will limit production accordingly. Professor Cabot brings no evidence tending to show that the telephone companies are not limiting production in this sense and to this extent.

Equally unsupported is his assertion concerning the telegraph companies. "No one can deny that the telegraph business is competitive; in fact, in this field government rate regulation has all but disappeared." If Professor Cabot infers the presence of competition from the absence of regulation he is guilty of an astonishing *non sequitur*. "Government rate regulation," whether Federal or state, has never been a serious factor in the telegraph industry. The impending introduction of a bill in the United States Senate to meet this deficiency indicates that some members of the Upper House of Congress reject Professor Cabot's assumption of competition. We all know that there is no competition in rates between the two great telegraph companies.

The Question of Substitutes

However, Professor Cabot's argument for a change in the principle of regulation is not based upon the claim that the utilities face *direct* competition with regard to their respective products or services. He attributes their alleged competitive character to the availability of substitutes. "It is assumed," he says, "by utility commissions that where monopoly exists competition can not control prices, but it is my sincere belief that this assumption is unwarranted and that the markets for utility services are now truly competitive." He adds: "This is the nub of the whole question and it is here that I part company from most, if not from all, writers on this subject."

Despite Professor Cabot's argument, it would seem that the other economic writers may safely and logically continue to entertain their opinions. He gives no convincing evidence that the substitutes for utility products are capable of preventing the imposition of extortionate rates by the companies. To be sure, there are actual or potential substitutes for all such products except water. Were it not for the prohibition laws, Professor Cabot might not have conceded even this exception; for beer and wine might conceivably supplement rain and snow for beverage purposes, while some chemical substitutes might be invented to supplant the other uses of water. The trouble is that the process of substitution can not begin soon enough. Consider a typical example.

The street-car fare in the District of Columbia for several years past has been eight cents. For more than two years the railway companies have been seeking an increase on the plea that they are not obtaining a reasonable return on the fair value of their properties. The valuation which they desire is approximately equal to the cost of reproduction. They do not deny that the present fare would yield a just profit on the prudent investment or the historical cost. According to Professor Cabot, both the public-utility commission and the street-railway companies ought to abandon the cost-of-service principle entirely and fix rates on the basis of the competition that is possible through substitution. Undoubtedly this factor does operate. Competition by auto-

mobiles had a good deal to do with the increase of fares from six to eight cents and it has continued in such force that the companies now demand ten cents. Apparently the competition by substitution has caused an increase rather than a decrease in the price which the community must pay for street-car service. While the companies realize that the higher fare which they demand would be followed by some further increase in substitution and some further decrease in the number of persons using the street cars, they believe that these changes will not be sufficiently great to prevent an increase in net profits. In this instance, therefore, the competitive effect of substitution is altogether unfavorable to the public, inasmuch as it very considerably increases the amount that they must pay for riding on street cars.

Professor Cabot lays great stress upon the "elasticity of demand" as evidence that competition by substitution is a reality. Undoubtedly, the demand for street-railway service is elastic. A decrease in the fare will be followed by an increase in patronage. Some persons who now walk will then ride and some persons who now use automobiles will revert to the street cars. When the fare is increased, some who have been riding will walk while others will use automobiles. In themselves, however, these facts give no support to Professor Cabot's contention that competition by substitution can be manipulated so as to bring greater profits to the utilities and at the same time lower prices to the consumers. This could happen only where substitution would be sufficiently elastic and sufficiently prompt to keep prices at the lowest, instead of permitting them to reach the highest level of the practicable range. Not the fact but the degree of elasticity in the demand is the decisive consideration. In some cities, for example, New York and San Francisco, the street-car fare is five cents; in Boston it is ten cents. Every conceivable rate between these two extremes is in force in one or more American cities. Five cents is probably the lowest and ten cents the highest profitable rate attainable anywhere. If Professor Cabot's theory were consistent with the welfare of the car riders, the companies ought to desire the five-cent rate anywhere. As a matter of fact, some of them prefer double that rate since, they find that competition by substitution does not become effective or threatening below that level. In the absence of regulation on the cost-of-service principle, other companies would no doubt exact a ten-cent fare, as does the Boston Elevated. At least it is safe to say that most of them would be charging more than is now permitted to them by the commissions, for they could profitably do so despite the effect of competition by substitution.

Conceivably the street-railway companies might make more money by attracting larger patronage through lower fares, but the hypothesis is extremely improbable. The companies seem to have had plenty of experience to warrant the conclusion that the greatest net profits are obtained not from prices which attract the largest demand but from prices which are considerably above that level. And no amount of "skilful regulation of price" by utility commissions would seem to be capable of changing the essential factors of the situation. What is true of street railways applies to many other utilities. Men will no doubt return to oil lamps rather

than pay enormous prices for gas and electricity, but the majority of them will pay much higher prices for gas and electricity than are necessary to attract the maximum demand or to return a fair rate of interest on the invested capital. In the field of electric *power* it is quite possible that low or moderate prices would prove the most profitable, but the reason is that the competition of other kinds of power is really elastic and promptly operative. Wherever such competitive sources of power give substantially as good services as electricity at a cost very little greater; that is, wherever the service and cost of the substitute are approximately equal to the service and cost provided by the product of the public utility, competition exerts a satisfying influence upon prices. Where these features do not characterize the substitutes, as in the case, for example, of electricity for domestic lighting purposes, their potential competition will not guarantee reasonable charges to the consumer nor "the largest volume of service at the lowest profitable price."

The Procedure Recommended to the Commissions

"Perhaps in the long run," says Professor Cabot, "competition by substitution might achieve the desired result—namely, the greatest service to the public at the best prices—but it seems to me entirely clear, as I shall try to show, that state regulation skilfully applied will reach this goal more certainly and more rapidly than *laissez-faire*." Following is a summary of his proposed changes in the methods of regulation.

Since the reasonable prices which the law requires are competitive prices, the objective of regulation should be the prices which would obtain under a system of free competition. To attain this end the commission should have before it the records of the company for the past years, showing, first, the money received under each rate schedule, the prices charged under each classification and the quantities sold; second, the money paid out to produce and deliver the total quantities, including fixed charges, taxes, depreciation allowances, interest and dividends. "And it is important to understand clearly the exact nature of these charges." The companies must also be required to make known their plans for the future and to present estimates showing the quantities and profits expected under present rates and those expected under a change in rates.

In determining rates, the commission will disregard entirely "the cost or value of the company's property devoted to the public service." Instead, they will "charge each class of customers as nearly as possible what the service is worth to that class." The worth of the service is determined in each case by what the consumer is willing to pay rather than turn to a substitute. If any class is paying substantially less than that rate, the company will be unable to serve some other class which is unwilling to pay the then lowest profitable price. However, the increase in prices must not be carried so far that it will reduce the quantity to such an extent as to cause a decrease in the *total* profit. In determining the rate schedule, however, the rate-making body must not "attribute certain expenses and certain rates of profit to certain customer groups . . . In all public utilities the income and the expenses are joint, and any attempt

to allocate costs or profits will lead to error." Hence "the aim of the company and the commission alike must be maximum volume and maximum aggregate profit . . . If this method is patiently and skilfully applied, the result will be the best prices for the buyers considered as a whole . . . To sum up, the ideal is to have large producers with long views which will lead them to seek maximum total and minimum unit profits; in short, managers who manage according to modern instead of medieval methods."

With the suggestion that the companies be required to adopt better accounting systems and budget making and in general to provide the commissions with more comprehensive information, all authorities on utility regulation would be disposed to agree. But Professor Cabot's outline of the method which the commissions should follow in utilizing this information for the regulation of public-utility prices seems to be very vulnerable. His proposals seem inapplicable to any utility which is required to sell its services at uniform prices to all persons. Such are street railways, steam railroads, interurban lines and automobile busses of all sorts. In none of these utilities would it be practical to raise fares as high as the traffic would bear to one class of patrons and reduce them to another class in order to get the benefit of mass production at low rates, low unit costs and high aggregate profits. The latter part of the method is already exemplified in the excursion rates offered by the railroads at certain seasons, on week-ends and for the delegates to conventions. While the other part of the plan is theoretically open to the utilities that we are now considering, it would scarcely bring about "the best prices for the buyers considered as a whole." An increase in passenger rates up to the point just beyond which the diminished demand would bring about a fall in net profits, would cost the majority of patrons more for this service than they pay at present, while a considerable minority would be impelled to curtail their use of the carriers.

To be sure, if a general reduction of rates should be followed by an increased volume of both business and profits, this particular "skilful regulation of prices" would justify itself to both the companies and the public; but the companies and commissions seem to be persuaded that these beneficent results would not come about. There is no need of discussing Professor Cabot's plan in relation to the transportation of freight, in view of the settled policy of the law concerning discrimination among different classes of shippers. In so far as the method is practically available, it is already applied in a very complex system of freight classifications.

Professor Cabot seems to have in mind chiefly the sale of electric current. The demand for all the domestic uses of electricity could be greatly increased by lower prices, and the same is true of electricity for power purposes. He thinks that in both these cases lower rates would result in low unit costs and greater profits. If this opinion is correct, the only important service for which higher rates could profitably be imposed is that involved in the use of domestic lighting, inasmuch as this, according to Professor Cabot, is not truly competitive. To compel this part of the service to bear the whole burden of increased prices for the benefit of all other services would not seem to be particularly wise or just.

The telephone industry could bear a limited application of the proposed method. Residence telephones might be required to pay the maximum prices that could be imposed without causing a decrease in total profits, while the rates might be lowered to business concerns; or the procedure might be reversed. Similar classifications might be made in the telegraph industry. Messages originating in business establishments might be subjected to higher rates in order that private messages could be sent at lower rates; or the opposite course might be followed. Another conceivable recourse would be to impose high charges upon the wealthiest patrons of telephones and telegraphs, while giving the benefit of lower rates to all persons in medium and moderate circumstances. While this method is not unknown in the medical profession, it is scarcely practicable in any of the public utilities. The conclusion indicated by this brief survey is that Professor Cabot's method of manipulating rates would not bring us nearer to the goal, "the best prices for buyers considered as a whole."

This and two or three other formulas employed by Professor Cabot aptly illustrate the vagueness and inconclusiveness of his arguments. What really does he mean by "the best prices for buyers considered as a whole"? The lowest average unit price? If this is what he means, does he assume that it will be lower than the average unit price under the present system of regulation? Unless this result is produced, the new method of regulation can scarcely be regarded as beneficial to the consumer. Even if average prices are to be reduced, there remains the question of justice to those groups of consumers who will be required to pay the highest price that can be exacted from them consistently with the highest total profit. These groups may be compelled to pay prices out of all proportion to the cost of the services which they obtain. Indeed, the value of the service, as measured by the utmost price that a group will pay rather than turn to a substitute, might make possible the crudest kind of extortion. In a public service, is no account to be taken of the needs and capacities of the various classes? Professor Cabot makes a telling point when he urges that rate hearings include testimony of non-users as to why they do not use utility services. But the implication is that the prices are too high in all such cases. Perhaps the formula that we are considering means that the *majority* of the consumers are to enjoy lower rates than they do at present. Even so, the injustice to the minority still remains.

The aim of both the commission and the company should be, he says, "maximum volume and maximum aggregate profit." Wherein does this differ from the practical rule adopted by monopolies always and everywhere? They seek maximum net profit. Any volume of business that brings less than this may be too large or, perhaps, too small. Here again Professor Cabot has permitted himself to be seduced by a slogan. He seems to think that the words "maximum volume" have an absolute character, whereas they are necessarily relative to the other part of the phase, "maximum aggregate profit." In order to obtain the latter, the companies and the commissions may find it necessary to keep the former considerably below the amount that is produced under a system of regulation on the basis of cost.

"Maximum total and minimum unit of profit" is the ideal which Professor

Cabot would have the producers pursue. This pursuit would be helpful to the consumers, subject to two conditions: first, that certain groups are not compelled to pay extortionate prices on the basis of "what the service is worth to them" and second, that "maximum unit profits" are to be lower than those prevailing under the existing system of regulation. The companies may find, as they often have found, that maximum total profit is consistent with minimum unit profit only in so far as the latter is determined by the former. Sometimes, at least, the maximum total profit is obtained through unit profits which are higher than they would have been had the companies been aiming only at moderate total profits. Professor Cabot has adduced no evidence nor any objective argument to warrant the conclusion that in pursuing this "ideal" the companies would perform "the greatest service to the public at the best prices." Indeed, maximum total and minimum unit profit may be equivalent to maximum volume and maximum aggregate profit.

A Summary Criticism

Let us try to sum up as briefly as possible our criticisms of Professor Cabot's assumptions and proposals. He brings forward no facts to show that any considerable amount of public utility products are subject to prompt and adequate competition by substitutes. If such competition really existed, the consumers would not need protection through any sort of public regulation. Prices and rates would be kept down to reasonable levels, as in private industries which are genuinely competitive. So much for his assumptions of fact. As regards his proposals for a new method of regulation, the suggestion of raising prices to all those groups of consumers who are willing to pay more rather than go without the service, and raising them sufficiently to produce maximum profits, involves a degree of injustice that is ethically abhorrent and socially impossible. His recommendation for reductions in rates in order to utilize the advantages of mass production is undoubtedly sound within certain limits, but it is attainable without any change in the principle or methods of regulation. His suggestion that, instead of determining rates according to a fair return on the investment, the commissions should "aim to increase aggregate profits," on the theory that "profit is the measure of benefit to the community," is new and extraordinary. It assumes that maximum profits will always be more beneficial to the community than any smaller volume of profits. Surely this is a naive act of faith. Surely it is discredited by all the experience that has been accumulated in the operation of public utilities, both with and without regulation. In a word, what Professor Cabot did in these two articles was to combine a few isolated facts with a large amount of hypothesis and speculation. The result is an unconvincing picture of what might happen in certain improbable contingencies.

A Program of Regulation

At the beginning of this paper it was noted that the existing regulation of public utilities is far from giving general satisfaction. According to some critics, it has utterly failed and is incapable of any considerable improvement. Pronouncements of this sort are misleading and futile. There are only two alterna-

tives to regulation: namely, complete license for the monopolistic utilities to exploit and oppress the consumers, and public ownership and operation. The former is a counsel of despair which will hardly be heard by men who still cherish freedom. The second is, and unfortunately will remain for many years to come, incapable of general adoption. Therefore, the practical question concerns such improvement in the methods of regulation as will provide the maximum protection to the consumers that is consistent with fair treatment of the utilities.

Regulation of rates has two phases, the process itself and the conditions within which it is restricted as regards the rate base and the fair return. The regulating commissions should possess all the legal authorization, all the funds and all the personnel that are necessary to insure the following: the use of proper accounting systems by the companies; the rendering of adequate reports and the disclosure of complete information concerning company receipts, expenditures, operations and plans; the enforcement of managerial efficiency; and rigid control of security issues. In all probability, there is not one state commission which is equipped according to all these specifications. Several of them are wanting in the majority of the commissions. One defect is particularly conspicuous in relation to electric utilities. Inasmuch as the state commissions have little or no control over the management fees exacted by holding companies from the operating companies, they are unable to exercise full control over operating expenses. The profits of the holding companies from engineering, construction and finance enter into the fixed capital accounts of the operating companies. Since the state commissions can not pass authoritative judgment on the reasonableness of these charges, they lack adequate control over the issuing of securities. Apparently, the interstate character of the holding companies renders them immune to state control in their relations with the operating companies. "There is evidence that present methods of commission regulation are totally ineffective in dealing with the special problems of the holding company and that the entire system of commission regulation of utility companies may be circumvented and destroyed unless means are found to render it more effective in this direction."[3] The companies engaged in the interstate transmission of electric current are likewise beyond the jurisdiction of the state commissions. Both kinds of organization should be brought under Federal control through some such agency as that proposed in the bill introduced a few months ago by Senator Couzens.

However, it is under the second phase of regulation that its defects have become most manifest and irritating. The commissions are required to fix charges sufficiently high to enable the utilities to obtain a fair rate of return on the fair value of their properties. Now the fair value of a public utility, if correctly estimated, would be identical with the amount of money prudently invested therein. This is the measure of capital value upon which the vast majority of savers and investors are satisfied to obtain the competitive rate of interest. The vast majority of men who had invested money in private industries before 1914 do not find that those investments have since increased in value to

[3] *Electric Utilities—The Crisis in Public Control*, by Mosher and Others, pp. 123–124.

such an extent that they now equal the present cost of reproduction. The vast majority are lucky if the present value of the investments is as high as it was previous to 1914.

Nevertheless, certain decisions of the United States Supreme Court rendered since the beginning of 1923, particularly in the cases of the Southwestern Bell Telephone Company, the Bluefield Water Works, the Indianapolis Water Company and the O'Fallon, have practically deprived the commissions of the power to determine the rate base by the rule of prudent investment or historical cost. The most urgent requisite in this field is the enactment by the state legislatures and by Congress of laws providing specific rules of valuation. These rules should be such as to withstand the scrutiny of the Supreme Court and at the same time to yield only as much as is absolutely necessary to the rule of reproduction cost. Possibly the Court would uphold a law which would establish as a valuation base prudent investment plus subsequent increases in the value of lands owned by the utility, or prudent investment plus a specified maximum percentage on account of the rise in the price level. Since the Court has steadfastly refused, even in the O'Fallon case, to specify the weight which should be accorded to reproduction cost in the valuation of utility properties, it might be satisfied with these concessions. Perhaps if Congress had introduced some such specific rule of valuation into the Transportation Act, the Court would not have set aside the ruling of the Interstate Commerce Commission in the O'Fallon case. At any rate, the primary need in the field of regulation today is legislation which will specifically define the rule of valuation and the rate base, thus rendering unnecessary any further valuations and any further litigation about valuations.

The fair percentage of return is likewise a problem for the legislative bodies. It should not exceed 7%. At that rate, abundant money can be found by the utility companies for refinancing and for expansion. Neither in economics nor in morals is there any good reason why they should receive a higher rate than is sufficient to attract new capital.

Possibly the increased cost of effective regulation, according to the specifications of the foregoing paragraphs, would provoke a wide-spread demand for public ownership and operation. That would not be an undesirable outcome. Regardless of the efficiency or inefficiency of regulation, public ownership of public utilities ought to be adopted by the cities and the states wherever conditions are favorable and public opinion is sufficiently educated. Finally, the Federal Government ought to establish a sufficient degree of public operation in connection with such projects as Muscle Shoals and Boulder Dam to act as a check upon private operation and to set up standards of what is fair and attainable in both service and price.

FUNCTION OF THE RESERVE IN LIFE INSURANCE

By WILLIS HATFIELD HAZARD

NOT long ago, the then Governor Pierce of Oregon was responsible for the drafting of the following resolution, which was formally presented to him by the State Federation of Health:

Whereas, More than $14,000,000 are being collected every year from the citizens of the State of Oregon, for the premiums on Life Insurance; and

Whereas, This amounts to more than $17 for every man, woman and child in the state and, therefore, is of considerable importance to its people; and

Whereas, According to the report of the Insurance Commissioner less than $5,000,000 of the sum collected annually is being returned to the people of this state; and

Whereas, We are reliably informed that the insurance rates that have been in effect for many years in this and other states of the United States are based on the mortality tables of 1868; and

Whereas, The people not only of the State of Oregon, but of the whole United States, are expending annually large sums of money in the interest of the public health, and by carefully guarding their health through the various health departments, and especially that of the State of Oregon, have been able to raise the average age of life from about 35 years in 1868 to 55 years at the present time; and

Whereas, The insurance companies, almost without exception, have not given the people the benefit of this conservation of human life,—

Therefore, Be it resolved that the Governor of the State of Oregon together with the Insurance Commissioner and, if necessary, the Legislature of this State, be called upon to make the necessary investigation to bring about the proper rates on life insurance for the companies transacting business in the State of Oregon.

Several expressions of the same feeling have come to the surface recently—the latest being from the legislature of Texas, directed specifically against the "high cost" of life insurance. Many writers of books and contributors to magazines and the press voice similar sentiments. For instance, such a well-informed author as Stuart Chase, in his valuable book, *The Tragedy of Waste*, which has had a deservedly wide circulation, criticizes the "waste" in the excessive cost of life insurance by pointing out that in 1920 the companies received a total income of $1,847,000,000 and paid to policyholders $754,000,000—a return of 40%!

This rather wide-spread belief in the excessive cost of life insurance is deplorable for two reasons: first, it has a tendency to undermine confidence in an institution the service of which is admitted to be of very great economic value; and, second, it rests on such a radical misunderstanding that, if unchecked, it may lead to serious curtailment of sound insurance activities through ill-informed legislative action.

I

The utmost significance attaches to the fact that the life-insurance companies of this country are gathering to themselves, in the regular course of their business, sums of money which in the aggregate are stupendous. The largest of all these companies, the Metropolitan Life Insurance Company of New York, has assets which make

it the greatest financial institution in the world, not excepting the Bank of England. The assets of this company are $3,000,000,000, while the total assets of 297 life-insurance companies are $16,000,000,000. This latter figure represents 18% of the total income of the country in 1928. It is an increase of $1,600,000,000, or 12%, over the assets of the year before.

In 1904, 25 years ago, the total assets of life-insurance companies were $2,500,000,000. During the succeeding decade, to 1914, they almost doubled—$2,500,000,000 became $4,500,000,000. In the decade from 1914 to 1924 they more than doubled, and in the past five years they have increased 85%. The regular annual increase for some years now has been 10%, and since 1923, notwithstanding the larger sums involved, it has been 11% or more. These figures are quoted merely to show how a snowball of this character can roll up. These vast sums are the result of years and years of accumulation by the companies engaged in this enterprise.

Last year life-insurance companies received from their policyholders about $3,000,000,000 and they paid back to policyholders or their heirs about half that amount—$1,500,000,000. This discrepancy, while reasonable enough to the initiated, obviously needs explanation to the public, because that interested party to the transaction has as a whole no true conception of what is going on. Unfortunately for the insurance interests, the explanation is extremely hard to make in language understood by the layman. The reason is that life insurance rests on a recondite actuarial science, the full comprehension of which is of necessity confined to men who have perfected themselves in its processes.

Every policy of life insurance will be paid to the uttermost farthing if the policyholder keeps it in force by depositing his annual premiums and if the company remains sound. *Every policy must become a claim sooner or later.* Neither by campaigns for public health nor by any other method can the issuing company escape the ultimate liability under its outstanding contracts—because all men die. This is an obvious but a very momentous fact. *It is a fact that applies to life insurance alone.* No other form of insurance admits any such liability. Tens of thousands of policies of fire insurance are born, serve and expire, without ever inflicting a claim for one cent on the companies that issued them. The same is true of casualty, health and accident insurance, as well as of all the indemnity and fidelity policies and bonds, and of all other minor branches of the insurance business. *The life-insurance policy alone is certain to mature and become a claim.*

The only exception to this broadest possible statement is found in the form of contract called "term insurance," under which no claim can arise unless the insured die within a specified "term" of years—usually five or ten. These term policies form but a small fraction of the insurance in force. They are exactly like fire insurance and are "life" policies only in the sense that the risk covered temporarily is a human life exposed to death, instead of a building exposed to fire.

If, then, every life policy surely becomes a claim, the company must have the money to pay it. This fact is the first proposition underlying the structure of the vast fabric represented by 100 billions of legal-reserve life insurance now in force in this

country. How is this amount to be determined with exactness? It took the mathematicians of Europe nearly two centuries to find the answer to this question. They began about 1660, and toward the latter part of the period Americans joined in the search. In fact, it was not until 1868 that the modern system of policy valuation, in accordance with the requirement of a legal reserve, was generally adopted.

II

Life insurance was a mathematical impossibility, or at least a tantalizing uncertainty, until knowledge had been obtained as to the *rate* at which men die. That is to say, it is clear that a man has on the average a better chance of living for one year at the age of 30 than he has at the age of 60. But how much better? If we are going to insure a man for one year at the younger age, how much less must we charge him than would be necessary if he were twice as old? Shall it be half as much?

This basic question could not be answered until reliable vital statistics for large numbers of men could be collected. During the Middle Ages no such statistics were in existence. Furthermore, even if the facts had been known, the tenure of life before the eighteenth century was too uncertain, because of social habits, wars, pestilence and bad living conditions, to make insurance possible at rates that the people could pay. Insurance demands a stable population, free from great wars such as the terrible Thirty Years' War.

Let me emphasize this point by showing, in a paragraph, what this particular war did. In addition to the political disintegration of Germany which the Thirty Years' War caused, it brought economic desolation to the whole country. No important part of the Empire escaped the horrors of the conflict. The people were the victims of a licentious soldiery whose excesses laid waste whole regions. Prosperous towns were literally wiped out, commerce and industry were destroyed. Germany lost half her population and two thirds of her national wealth. The loss on the intellectual side took generations to make good. Life insurance was utterly impossible under such conditions, or during great scourges like the Black Death (bubonic plague), which during its recurring visitations killed millions. Established social and economic relations are necessary in order to give a stabilized value to human life. None of these conditions existed in Europe until the eighteenth century, and their improvement to the point where life insurance was practicable took place barely 150 years ago. Even today such experiences as the World War and the influenza-pneumonia pandemic have very upsetting effects.

But the accumulated vital statistics of the past three or four generations have enabled us to create a table of mortality which is dependable and is now legally mandatory for all American companies as their standard in calculating policy valuations. This is officially known as the "American Experience Table of Mortality." It came into use in 1868, soon after the Civil War. Its purpose is to show the rate at which 100,000 insured persons die, starting at the age of 10. And that rate determines the premiums to be charged for insurance at the several ages.

The table runs from the age of 10 to 96. The reason it stops at the

TABLE I. AMERICAN EXPERIENCE MORTALITY TABLE

Age	Number Living	Number Dying	Number of Years Expectation of Life	Number Dying of Each 1,000 Annually	Age	Number Living	Number Dying	Number of Years Expectation of Life	Number Dying of Each 1,000 Annually
10	100,000	749	48.72	7.49	53	66,797	1,091	18.79	16.33
11	99,251	746	48.08	7.52	54	65,706	1,143	18.09	17.40
12	98,505	743	47.45	7.54	55	64,563	1,199	17.40	18.57
13	97,762	740	46.80	7.57	56	63,364	1,260	16.72	19.88
14	97,022	737	46.16	7.60	57	62,104	1,325	16.05	21.33
15	96,285	735	45.50	7.63	58	60,779	1,394	15.39	22.94
16	95,550	732	44.85	7.66	59	59,385	1,468	14.74	24.72
17	94,818	729	44.19	7.69	60	57,917	1,546	14.10	26.69
18	94,089	727	43.53	7.73	61	56,371	1,628	13.47	28.88
19	93,362	725	42.87	7.76	62	54,743	1,713	12.86	31.29
20	92,637	723	42.20	7.80	63	53,030	1,800	12.26	33.94
21	91,914	722	41.53	7.85	64	51,230	1,889	11.67	36.87
22	91,192	721	40.85	7.91	65	49,341	1,980	11.10	40.13
23	90,471	720	40.17	7.96	66	47,361	2,070	10.54	43.71
24	89,751	719	39.49	8.01	67	45,291	2,158	10.00	47.65
25	89,032	718	38.81	8.06	68	43,133	2,243	9.47	52.00
26	88,314	718	38.12	8.13	69	40,890	2,321	8.97	56.76
27	87,596	718	37.43	8.20	70	38,569	2,391	8.48	61.99
28	86,878	718	36.73	8.26	71	36,178	2,448	8.00	67.66
29	86,160	719	36.03	8.34	72	33,730	2,487	7.55	73.73
30	85,441	720	35.33	8.43	73	31,243	2,505	7.11	80.18
31	84,721	721	34.63	8.51	74	28,738	2,501	6.68	87.03
32	84,000	723	33.92	8.61	75	26,237	2,476	6.27	94.37
33	83,277	726	33.21	8.72	76	23,761	2,431	5.88	102.31
34	82,551	729	32.50	8.83	77	21,330	2,369	5.49	111.06
35	81,822	732	31.78	8.95	78	18,961	2,291	5.11	120.83
36	81,090	737	31.07	9.09	79	16,670	2,196	4.74	131.73
37	80,353	742	30.35	9.23	80	14,474	2,091	4.39	144.47
38	79,611	749	29.62	9.41	81	12,383	1,964	4.05	158.60
39	78,862	756	28.90	9.59	82	10,419	1,816	3.71	174.30
40	78,106	765	28.18	9.79	83	8,603	1,648	3.39	191.56
41	77,341	774	27.45	10.01	84	6,955	1,470	3.08	211.36
42	76,567	785	26.72	10.25	85	5,485	1,292	2.77	235.55
43	75,782	797	26.00	10.52	86	4,193	1,114	2.47	265.68
44	74,985	812	25.27	10.83	87	3,079	933	2.18	303.02
45	74,173	828	24.54	11.16	88	2,146	744	1.91	346.69
46	73,345	848	23.81	11.56	89	1,402	555	1.66	395.86
47	72,497	870	23.08	12.00	90	847	385	1.42	454.54
48	71,627	896	22.36	12.51	91	462	246	1.19	532.47
49	70,731	927	21.63	13.11	92	216	137	.98	634.26
50	69,804	962	20.91	13.78	93	79	58	.80	734.18
51	68,842	1,001	20.20	14.54	94	21	18	.64	857.14
52	67,841	1,044	19.49	15.39	95	3	3	.50	1,000.00

latter point is that only three persons out of the original 100,000 are calculated to be still alive at the age of 95 and they will in all probability die during the ensuing year. Hence, it is taken as a determined fact that the entire group ceases to exist in 86 years.

Now, since all the members of a group of 100,000 will probably have died before reaching the age of 96, that age is accepted in actuarial calculations to be the absolute terminus of that generation. Therefore, if a policyholder has survived until that age, the actuary assumes that he will not live beyond it, and builds the policy so that it will mature at that point automatically. Only two or three times in all insurance history has a policyholder survived beyond that extraordinary age.

But "maturing the policy automatically" means that it has become an endowment for its face amount. And that is precisely what every "life" policy is—an endowment at 96. This, then, gives the necessary and definite close to the insurance transaction. If a man aged 23 buys an "ordinary-life"policy, he is really buying a 73-year endowment; if he is aged 60 he is buying a 36-year endowment, and so on. More than half of all insurance in force is of this character—whether it be "ordinary life," in which premiums are paid during the whole lifetime of the insured, or "twenty-payment life" or "five-payment life," or whatever limited number of premiums are called for. Accordingly, if a certain policy is written for $1,000, the company must have that much money on hand with which to pay it by the time the insured reaches 96. How much earlier the money may have to be paid through prior death is another matter.

This "other matter" is the insurance part of the transaction, which means in effect that every premium is essentially a dual-purpose payment to the company. The first part is the "deposit" to build up the sinking-fund or self-insurance fund; the other part is a "premium" added to meet the policyholder's share of the *annual* cost of the insurance that he is carrying. The two together comprise what the *public* calls the "premium." But from the actuary's point of view they are essentially distinct because they serve different purposes, both of which are necessary to the completeness of the operation.

It is fairly simple to calculate the amount of money paid annually and compounded at a given rate of interest, which is necessary to accumulate $1,000 in a certain number of years. This calculation involves no question of life contingency—that is, of death or survivorship—but is a definite sum accumulated at the end of a certain number of years for the benefit of the legal owner or his heirs, all or any of whom have the privilege of continuing payments to complete the endowment term if the original investor falls by the way. Such a transaction obviously has almost no place in an insurance contract, for it is pure banking. But the reason that the ordinary life policy matures as an endowment at 96, is that every one of the group of 100,000 will probably have died before reaching that age. Hence, something beyond the pure banking accumulation is necessary: a contribution from the members of the group to provide for the earlier payments on behalf of those who die.

Theoretically, there are two ways in which this may be secured. The first is by paying annually an assessment equal to the death rate of that year.

This is an ascending step rate, as can be seen from the last column of Table I. It works this way:

A man aged 35 may insure his life for $1,000 for a premium of $8.95. This guarantees that $1,000 will be paid his heirs if he dies during the year. The next year he may reenter the same arrangement, with the exception that the premium will be $9.09 at age 36. At 37 the rate becomes $9.23. At 50 it has jumped to $13.78 and at 60 to $26.69. If he wishes to continue the arrangement, he will have to pay $61.99 at 70 and $144.47 at 80. If he lives that long, he will probably sicken of the now terrific rate and will drop the insurance, as has been the experience of all purely assessment fraternal organizations. In that event, all he has to show for the money he has paid during the past 45 years is the memory of the insurance protection that he has carried.

Theoretically this plan is sound, but practically it is not satisfactory. It places the burden of heavy payments just where it should not be, that is, at that time in life when, because of the reduction of earning power, men wish to get rid of fixed charges. Practical experience in insurance administration shows that, because of the very high rate at advanced ages, it is necessary to offset this increase by reducing the risk to a point where the premium demanded for that reduced risk can be paid by men of average resources.

The second plan, called the "level premium," works in the opposite direction from the first plan. It places the heavy burden in early life when it can be carried most easily. It requires larger payments in the younger years than the first plan, but these payments remain stationary or "level," notwithstanding the advancing age of the insured. A considerable portion of these payments becomes a deposit to reduce the company's risk in connection with the increasing probability of death.

This plan is equally sound, actuarially speaking, and wholly practical because it is adjusted to conform to the usual conditions of life. But it is precisely this plan that causes all the popular feeling that life-insurance premiums in general are too high. This is owing to the fact that these level premiums involve the creation of vast reserves held by the companies against the future payments to be made by them. These reserves are built up by the annual premiums collected from the whole body of policyholders, and the aggregate of these premiums is far greater than the death and other claims that mature each year *for that small fraction of policyholders who die or surrender.* Hence, we have the startling condition referred to at the beginning, where the policyholders paid in 1928 over $3,000,000,000, of which the companies returned to policyholders and their heirs only $1,500,000,000.

If the transaction were on the yearly-term basis just explained, the story would be very different, because it would show that the account with all policyholders involved an annual collection from them of just enough money to provide funds to pay the claims of those who died that same year. Table I would be used in both cases, but if there were 100,000 persons, aged 35, each insured for $1,000, it would be necessary to collect only $895,000, because only 895 would die that year. Under the level-premium plan the same number of the same age, insured for $1,000 each, would involve the payment of the same number of claims,

but the total premium collected that year would be $1,886,660.

III

The matter may be stated from another point of view. In level-premium insurance the premium is calculated in accordance with a legally adopted mortality table, under which is maintained a reserve to guarantee the fulfilment of the contract. This reserve is the accumulation, at interest, of the net premiums, from which accumulation the cost of insurance is deducted annually, the reserve becoming sufficient with the lapse of years to meet the contractual obligations of the company.

A "reserve" is not "surplus"; it is both a sinking fund and a legal liability, not merely a safety fund. Furthermore, the reserve belongs to the policyholder whether he lives or dies, inasmuch as it has been accumulated wholly from his premiums. If he lives, it becomes the basis of the surrender values—that is, cash values, paid-up insurance values and extended-insurance values. When, not "if," he dies, the reserve, which he has already built up by annual contributions out of his own pocket, plus "the amount at risk," which is the difference between this reserve and the face of this policy, together make up the death claim that the company pays the beneficiary.

Recognizing the inescapability of the facts regarding longevity and death, life insurance, although first thought of in any modern way over two centuries ago, remained hopelessly defunct so long as people thought in terms of the "step-rate premium" policy. The problem was so serious that in the early days life insurance was vastly less popular than state lotteries and it never would have amounted to anything at all if a way to escape both horns of the dilemma—either "unleveling" the premium or "unleveling" the insurance—had not been found. But, to the imperishable glory of the mathematicians of the eighteenth and nineteenth centuries, both horns were completely eluded by the invention of the principle of the reserve.

Of course, the technical details worked out in applying the principle were enormously complicated, for it was realized that the premium would have to be kept "level" in order to make life insurance of any value to mankind. No man, certainly no large number of men, would insure for life under the ascending step-rate system. However, not only the premium but also the insurance had to be kept "level"—that is, kept up to its face amount as shown in the policy. An insurance of $1,000 always had to be worth fully that amount when the time came to pay it to a man's heirs. Finally, the solution was definitely found, a solution which by its simplicity and certainty has had the effect of opening the doors for 65,000,000 people in this country alone to partake of the benefits of life insurance.

Here is the solution in effect: If a man should start a "level-premium" policy at the age of 30, he pays a premium that is sufficient to meet the "normal cost" of insurance, as it is called, at that age. It is only as he grows older that trouble develops, and the increasing inadequacy of the premium is noticed. At the age of 40 his policy, as a death benefit that year, would be worth only $900. Now if, instead of paying $10 when he started his insurance, he had paid $20 a year, the extra $10 would have accumulated to the credit of his policy and would

TABLE II.* ANALYSIS OF ORDINARY LIFE POLICY

Age 35 *Amount* $1,000

Office Premium $27.00 *Margin* $5.92 *Net Premium* $21.08

At Beginning of Each Year				At End of Each Year			At Beginning of Each Year				At End of Each Year		
Age Attained	Insurance Fund	Normal Cost	Company's Risk	Reserve Value	Cash Value	Policy Year	Age Attained	Insurance Fund	Normal Cost	Company's Risk	Reserve Value	Cash Value	Policy Year
35	$21 08	$ 8 58	$987 12	$ 12 88	$ 0	1	65	$544 00	$17 84	$458 06	$541 94	$541 94	31
36	33 96	8 59	973 87	26 13	0	2	66	563 02	18 63	439 29	560 71	560 71	32
37	47 21	8 60	960 24	39 76	39 76	3	67	581 79	19 46	420 80	579 20	579 20	33
38	60 84	8 64	946 23	53 77	53 77	4	68	600 28	20 32	402 65	597 35	597 35	34
39	74 85	8 68	931 84	68 16	68 16	5	69	618 43	21 20	384 86	615 14	615 14	35
40	89 24	8 72	917 06	82 94	82 94	6	70	636 22	22 11	367 48	632 52	632 52	36
41	104 02	8 76	901 89	98 11	98 11	7	71	653 60	23 01	350 50	649 50	649 50	37
42	119 19	8 82	886 32	113 68	113 68	8	72	670 58	23 89	333 93	666 07	666 07	38
43	134 76	8 88	870 35	129 65	129 65	9	73	687 15	24 72	317 70	682 30	682 30	39
44	150 73	8 97	853 99	146 01	146 01	10	74	703 38	25 49	301 79	698 21	698 21	40
45	167 09	9 07	837 24	162 76	162 76	11	75	719 29	26 20	286 13	713 87	713 87	41
46	183 84	9 20	820 13	179 87	179 87	12	76	734 95	26 87	270 69	729 31	729 31	42
47	200 95	9 35	802 65	197 35	197 35	13	77	750 39	27 53	255 47	744 53	744 53	43
48	218 43	9 52	784 84	215 16	215 16	14	78	765 61	28 20	240 48	759 52	759 52	44
49	236 24	9 76	766 72	233 28	233 28	15	79	780 60	28 85	225 71	774 29	774 29	45
50	254 36	10 01	748 32	251 68	251 68	16	80	795 37	29 62	211 30	788 70	788 70	46
51	272 76	10 29	729 66	270 34	270 34	17	81	809 78	30 36	197 20	802 80	802 80	47
52	291 42	10 61	710 78	289 22	289 22	18	82	823 88	31 01	183 36	816 64	816 64	48
53	310 30	10 96	691 68	308 32	308 32	19	83	837 72	31 54	169 65	830 35	830 35	49
54	329 40	11 35	672 42	327 58	327 58	20	84	851 43	31 99	155 99	844 01	844 01	50
55	348 66	11 77	653 00	347 00	347 00	21	85	865 09	32 58	142 53	857 47	857 47	51
56	368 08	12 22	633 48	366 52	366 52	22	86	878 55	33 39	129 50	870 50	870 50	52
57	387 60	12 71	613 86	386 14	386 14	23	87	891 58	34 46	117 18	882 82	882 82	53
58	407 22	13 23	594 19	405 81	405 81	24	88	903 90	35 52	105 58	894 42	894 42	54
59	426 89	13 78	574 51	425 49	425 49	25	89	915 50	36 27	94 41	905 59	905 59	55
60	446 57	14 37	554 84	445 16	445 16	26	90	926 67	36 82	83 47	916 53	916 53	56
61	466 24	15 00	535 23	464 77	464 77	27	91	937 61	37 86	73 27	926 73	926 73	57
62	485 85	15 66	515 71	484 29	484 29	28	92	947 81	39 98	64 96	935 04	935 04	58
63	505 37	16 34	496 31	503 69	503 69	29	93	956 12	40 73	57 17	942 83	942 83	59
64	524 77	17 07	477 08	522 92	522 92	30	94	963 91	41 76	50 21	949 79	949 79	60
							95	970 87	0	0	1000 00	1000 00	61

* In this analysis the "Insurance Fund" represents the amount of money to the credit of the policy at the beginning of each year after the payment of the premium. At the beginning of the first year this is identical with the "Net Premium." The "Normal Cost" represents the actual amount shown by the American Experience Table of Mortality to be necessary to pay for the "Company's Risk." If the "Normal Cost" is deducted from the "Insurance Fund" and the remainder improved at 3 %, the "Reserve Value" at the end of the year will be obtained. The entire "Net Premium" annually added to the "Reserve Value" gives the "Insurance Fund" at the beginning of the next year. The "Company's Risk" is the difference between the "Amount" of the policy and the "Reserve Value." After three full premiums have been paid, the "Cash Value" is the full "Reserve Value" required by the American Experience Table of Mortality with 3 % interest.

have formed a self-insurance fund (omitting for the moment all consideration of interest) exactly equivalent to the $100 that the level premium of $10 would be incapable of buying at age 40. Therefore, if he had died that year his double-decker premium would have done two things: it would have met the "normal cost" of $900 insurance and it would have added thereto the reserve of $100 which at that moment was standing to his credit, just like money in a savings bank.

At the age of 50 the premium pays for insurance lacking $250 of the face amount of his policy. But the extra $10 annually, crediting some interest, has now built up the missing $250, and, if the policyholder had died that year, his estate would have received the full thousand dollars. Exactly the same process would have been carried out at the other ages mentioned, with proportional results at the intervening years. By the time the age of 96 was reached, the reserve by itself would have equaled the face of the policy and would have been paid to the insured or to his beneficiary.

The reserve is really a sinking fund, which is the present value of all future claims and is an amount sufficient to reinsure every risk at net tabular rates. Moreover, this sinking fund in its entirety belongs to the policyholders themselves, directly in proportion to the vested interest each one has in the total amount of insurance carried by the company. It is comparable to the liability of a savings bank to each of its depositors. From this point of view Governor Pierce might as well call attention to the amount of money deposited by the citizens of Oregon in the savings institutions of that state and, because the amounts withdrawn are less than the amounts deposited, blame the savings institutions as a great source of expense to their depositors.

IV

Thus it is clear that the adoption of the reserve made level-premium life insurance possible as a practical utility. It is also clear that, incidental thereto, the creation of all the reserves necessary to validate the billions of insurance in force at all ages requires billions of actual dollars to be deposited with the companies engaged in furnishing life insurance to our citizens.

As the business increases in volume, and as the insurance in force grows older in duration, the reserves are bound to become not only actually but proportionately larger. They are now so large, $17,000,000,000, that the annual payments to the comparatively small number who die or surrender, hold a steadily decreasing relation to the total. Remember, the writing of new insurance each year grows apace. Within ten years, at the present rate of growth, the annual payments by the companies compared with the annual premiums received, instead of being in the ratio of 1.5 to 3 are likely to be 1 to 3—to the still greater mystification of lay writers on this subject, such as the Department of Health of the State of Oregon, referred to at the beginning. But this condition is mathematically necessary to preserve the integrity of the institution. And that integrity surely is worth preserving, for its economic and social benefits are just beginning to be understood by the nation at their true worth.

The fact is that the level-premium system is at once a marvel of simplicity and of elaborately complex calculations, made possible by the advancing science of higher mathematics. It

works with the changelessness, precision and impartiality of a chemical formula. It never departs in the slightest degree from the course on which it sets out. Its factors are absolute, positive and constant. Of course, the actual mortality experienced by the companies shows small variations from the table year by year; in fact, it is normally and consistently less than the table, as is desirable for practical reasons. But this makes no difference—the standard of measure remains the same. And so long as all companies use that one standard, all operate with the same safety, actuarially speaking. It does not matter whether one measures a room with a yardstick or by metre, so long as this same unit of measure is kept as the basis of all calculations of dimensions.

In conclusion, the misunderstanding about the assumed indifference of the companies to the size of the premiums they charge the public is one of the frequent psychological aberrations of uninformed or careless thinkers. The fact is, of course, that the most exhaustive study has already been given this subject by highly trained experts throughout the entire country. The single element of competition alone, among three hundred companies, would insure the development of the "low-cost" appeal to the limit, because there is no insurance trust or monopoly to control prices.

V

The Oregon Board of Health says, and thousands of individuals think the same, that the companies do not give their policyholders the benefit of lowered premiums made possible by the saving of human life through modern medicine. The board states that the mortality of the country, when the present legal table was worked out in 1868, was a very different mortality from what it is today, and that the companies are greatly to blame for not passing over to their members the savings in death claims effected by the improved health of the nation.

There are two answers to this charge, both very easily comprehended. First, modern medicine has done wonders in certain special fields. Sixty years ago we lived in a world where the knowledge and potency of the physician as compared with contemporary conditions were about as great as a rushlight compared with an electric arc-light. This is true in certain limited fields, most particularly in pediatrics. It is no exaggeration to say that practically everything that relates to the hygienic care of children and the treatment of the diseases peculiar to them has been revolutionized since the Civil War. The effect of this has been to make the records of infant mortality of the sixties and seventies look like the conditions in Southern India when compared with the records of our own land. While it may still be true that the mortality of our mothers in childbirth is higher than that of any other civilized nation, yet this dreadful state of affairs is not due to our ignorance of what causes puerperal fever. It is due to our willingness to allow stupid and unclean midwives to ply their dangerous trade. But it must be remembered that we do segregate this iniquity, so to speak, because it is not general throughout the country. Public opinion has made childbirth in the North almost as safe as it is in England or Holland.

But the child, having once been born, enters a world where his chances

of living are greatly increased over those of his grandfather or even of his father. The point of lowest mortality is 12 years of age. The life expectancy for ages 1 to 21 is far higher than it was half or three quarters of a century ago.

On the other hand, the life-insurance statistician is not nearly so much interested in the mortality of infancy and childhood as he is in that of middle and old age. Here the story is much less pleasant. It can be summarized in a sentence: vital statistics of millions of insured people seem to show that the degenerative diseases of late middle life and of old age are not only more general than they used to be—largely on account of the tempo at which we live—but that efforts toward their control are no more successful than similar efforts by the physicians of the Civil War period. This is a sad admission, but degeneration is a sad matter anyway, and the only thing to do about it is to live hygienically at whatever cost in self-indulgences.

But from the life-insurance standpoint, the matter is serious enough, because so far from being fewer deaths at the ages between 50 and 70, there are more. Actually a smaller percentage, not a smaller number, are passing into the 70 to 80 decade than was the case 50 years ago. A curious confirmation of this fact that has just come to hand is a review published in July by the *American Journal of Hygiene* of Johns Hopkins University, This study, conducted by a professor of biometry in no way connected with insurance interests, shows that the expectancy of life at the age of 60 is not greater now than it was in Revolutionary days, despite the increase in the *average* longevity due to the tremendous strides made by modern science. The average lengthening of life of which our friends talk so much is glorious, but it is caused primarily by saving the lives of infants and adolescents, not by keeping alive several years longer more of those at the other end of the table.

Sadly enough, the vitality gains which would make it possible for insurance companies to lower premiums are confined to those policyholders who are at the beginning of life—and they of course, form a very minor fraction of the total membership. It is surprising how little the public understands of this biometrical truism—as it seems to us who are familiar with trends in the business of insurance. The mortality at the older ages is greater than it ever was, and of course it is the deaths of members over 50 that cause the larger portion of any company's claim sheet. Until we can really get people to live longer at the critical end of life, we shall have no reductions in premiums.

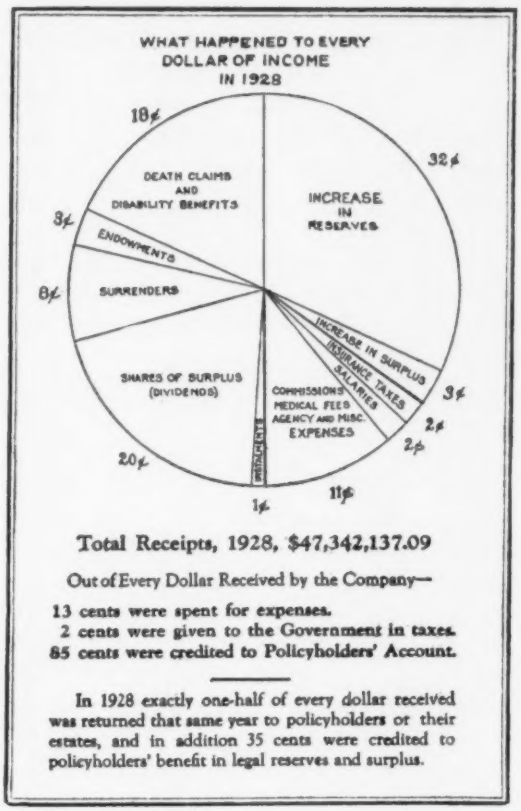
This brings up the second point in connection with the plea that premiums be reduced—namely, the fact that the only factor determining the size of the premium is the number of deaths that have to be taken care of at each age. By an examination of Table I, it appears that at the age of 35, out of 81,822 living at the beginning of the year 732 persons probably will die during the year. Now, if only 460, for instance, were going to die that year, the fourth column, which shows the number dying of each 1,000 annually, would read 5.62 instead of 8.95, which figure is not only the number dying in each 1,000, but is also the exact premium that each man of 35 must pay to insure his life for $1,000 for that year—and incidentally for no

other year. If houses burned more frequently than they do, fire-insurance rates would go up. Conversely, if men died less rapidly than they do, life-insurance rates would go down.

It is very easy to cast charges of waste and bad management at almost any human undertaking. It is easy to bolster up such charges with evidence that appears to justify them. No doubt Stuart Chase has uncovered evidence that really does prove his point in regard to many inexcusably wasteful practices. But when he comes to life insurance he fails signally, not through wilfulness or blindness, but through that misunderstanding of the situation which has caused so many people who are unfamiliar with the facts to form erroneous judgments.

The simplest way to prove how economically life-insurance companies are managed is to show the figures of a representative, high-grade institution and let them tell their own story. This we have done in Table III. Last year out of every dollar of income received, exactly 13 cents were spent for expenses generally—including all forms of overhead. We believe that such a record would be hard to match in a commercial or merchandising or manufacturing organization.

Life-insurance companies create no wealth. They collect and redistribute wealth in accordance with contracts drawn to meet certain prearranged conditions. Every form of insurance costs money because every person insured bears his share of the losses sustained by the whole group. These losses are positive losses to society. Insurance does not restore the economic values that are destroyed. What insurance does is to distribute the loss among many people instead of allowing it to center on the few who sustain it. Hence, insurance must always cost money. Each loss, whether of life or property, reduces the community's assets by that much; the essential difference is that the direct victim is forced to meet only the trifling share thereof represented by the premium he has paid—and everyone else in the group pays pro rata exactly the same share. Thus the losses fall on the least important part of the capital of all—that is, the premium accumulations, which represent a mere fragment of the income of each—instead of being focused on the relatively few individuals who do actually suffer the loss insured against and who are idemnified thereby.


WHAT HAPPENED TO EVERY DOLLAR OF INCOME IN 1928
18¢
DEATH CLAIMS AND DISABILITY BENEFITS
32¢
INCREASE IN RESERVES
3¢
ENDOWMENTS
8¢
SURRENDERS
INCREASE IN SURPLUS
INSURANCE TAXES
SALARIES
3¢
2¢
2¢
SHARES OF SURPLUS (DIVIDENDS)
COMMISSIONS MEDICAL FEES AGENCY AND MISC. EXPENSES
DIVIDENDS
20¢
1¢
11¢
Total Receipts, 1928, $47,342,137.09
Out of Every Dollar Received by the Company—
13 cents were spent for expenses.
2 cents were given to the Government in taxes.
85 cents were credited to Policyholders' Account.
In 1928 exactly one-half of every dollar received was returned that same year to policyholders or their estates, and in addition 35 cents were credited to policyholders' benefit in legal reserves and surplus.

THE THIRTEEN-MONTH CALENDAR

By M. B. FOLSOM

BECAUSE of the defects in the present twelve-month calendar, many business concerns in the United States are now using the thirteen-period work calendar for their internal records.

Defects in Present Calendar

From the business point of view there are three defects in the present twelve-month calendar:

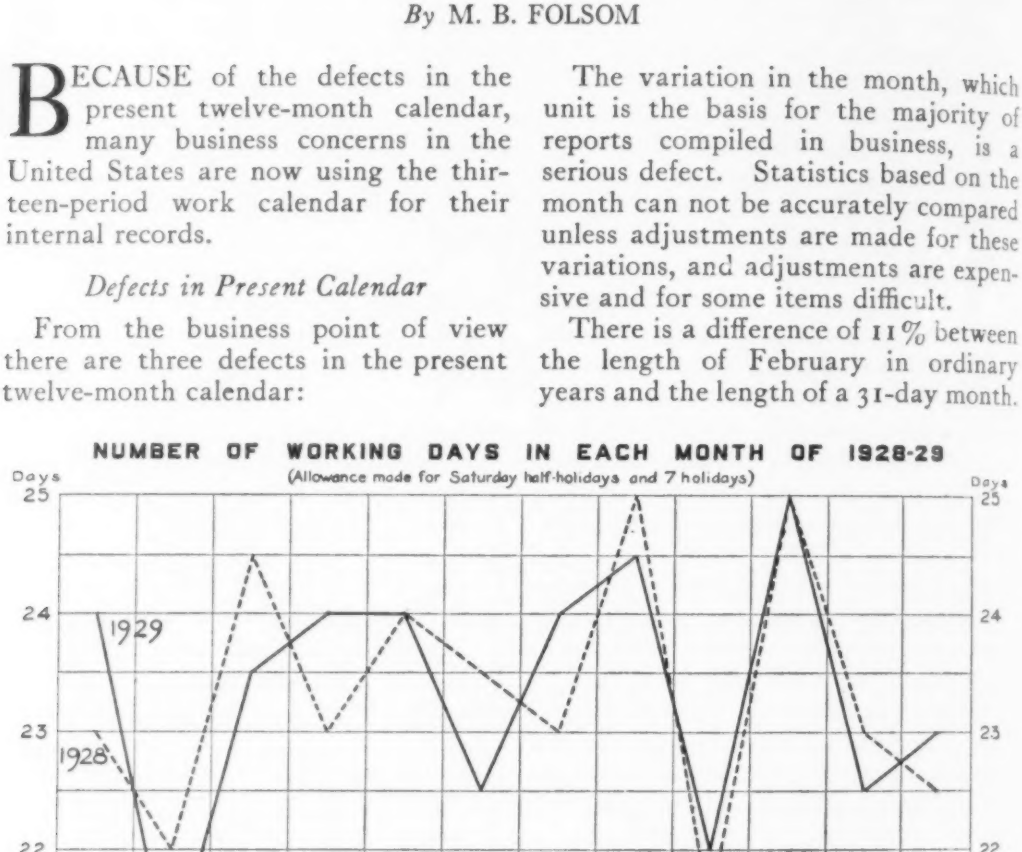
1. The variation in the number of days in the month. It may consist of 28, 29, 30 or 31 days.

2. The fact that the month is not a multiple of the week. With the exception of February, each month contains four weeks plus two or three days.

3. The calendar is not fixed; it changes each year. As the ordinary year has one day over 52 weeks, the date of the month each year falls on a different day of the week from the preceding year.

The variation in the month, which unit is the basis for the majority of reports compiled in business, is a serious defect. Statistics based on the month can not be accurately compared unless adjustments are made for these variations, and adjustments are expensive and for some items difficult.

There is a difference of 11% between the length of February in ordinary years and the length of a 31-day month.



If allowance is made for holidays and Saturday half-holidays, there may be a variation of 19% in the number of working-days in a month (from 21 days to 25 days). The accompanying chart shows the number of working days in each month of 1928 and 1929, allowance having been made for seven holidays and Saturday half-holidays.

This variation is the cause of many misconceptions each year regarding the course of business conditions throughout the country, also for the course of business within an individual firm, unless adjustments are made for these differences. In the publication of data for business as a whole, adjustments are not usually made. For example, the total number of freight cars loaded in the week ending November 30, 1929, was 837,107, which is some 3,000 cars less than the total loadings in the Thanksgiving-day week in 1927. The American Railway Association reported, however, that these loadings were 81,380 cars under the same week of 1927. In 1929, the week ending November 30 contained Thanksgiving Day. The comparison made by the Association was with the 1927 week ending December 3, a post-Thanksgiving-day week. A marked drop in freight loadings always occurs during the Thanksgiving-day week.

All accountants are familiar with the split-pay-roll difficulty and with the erratic course of the burden and cost statements owing to the fact that some months have five pay-days and others only four pay-days. This variation in the number of pay-days upsets comparisons, not only between months of the same year but also between corresponding months of consecutive years, because the month does not always have the same number of pay-days in different years. The following table shows the number of Saturdays in each month of 1929 and 1928:

	1929	1928		1929	1928		1929	1928
January	4	4	May	4	4	September	4	5
February	4	4	June	5	5	October	4	4
March	5	5	July	4	4	November	5	4
April	4	4	August	5	4	December	4	5

There is a corresponding variation in the number of other days of the week in the month.

Take the hotel business as a specific illustration: Thursday is the best day of the week for the hotel business, the average receipts on Thursday equaling 18% of the receipts of the week, while Sunday receipts are only 7% and Saturday receipts are 10% of the receipts of the week. This variation in the number of days in the month and the difference in the value of the days of the week cause a fluctuation in the value of the months of any one year and also in the value of corresponding months of different years. Using 1926 as an illustration: If January were considered as 100, February would have a value of 93.5, March a value of 106.5, April 102, May 100, and so forth. If the hotel manager made no adjustment for these variations, he would get a wrong conception of the course of his business. He would probably make allowance for February, but it is doubtful whether he would make allowance between March and May, for instance.

The department store gives another good illustration of the difficulties caused by these defects in the calendar. Saturday is the most important day for department stores, Saturday bringing in 22% of the business of the week. In March of last year there were five Saturdays, and in March of the previous year there were four Saturdays. The sales value of each day of the week for department stores is shown in the table on page 220.

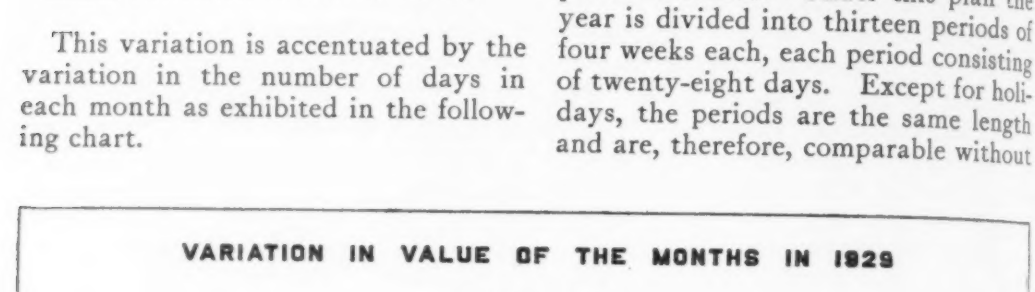
VALUE OF EACH DAY OF THE WEEK

Monday	15.5%
Tuesday	14.9
Wednesday	16.1
Thursday	15.7
Friday	15.7
Saturday	22.1

This variation is accentuated by the variation in the number of days in each month as exhibited in the following chart.

The Thirteen-period Calendar

Experience shows that for internal records these complications can be avoided by the use of the thirteen-period calendar. Under this plan the year is divided into thirteen periods of four weeks each, each period consisting of twenty-eight days. Except for holidays, the periods are the same length and are, therefore, comparable without



It is obvious from the few illustrations which have been given that, if adjustments were not made for the variations in the number of days and the number of weeks in the month, monthly reports would be misleading, and inaccurate comparisons would be obtained between months of the same year and between corresponding months of consecutive years. If adjustments are made, additional clerical work is required.

adjustment. The cause of variations in comparisons from month to month can be traced without the necessity of determining to what extent they are due to the irregularities of the present calendar.

Allowance must, of course, be made for the fact that the number of days in a year (365 in ordinary years and 366 in leap-years) is not exactly divisible by 13. Thirteen months of 28 days each account for 364 days,

leaving over one or two days. There are two methods of taking care of the one or two extra days. The method used by the majority of firms is to let them accumulate until they amount to a week, and then to insert a week every five or six years in one of the thirteen periods. Whether it would be inserted during the fifth or sixth year depends upon how many leap-years intervene. This means that on these occasions one period will have five weeks and will not be directly comparable with other periods, and allowance will have to be made for this in comparative statements. With concerns whose business is seasonal, the practice is to insert the extra week when business is at its lowest.

The other method is to include the extra day, or two days in leap-years, in the thirteenth period. This period would not be exactly comparable with the other periods under this method, but there would be a difference of only one twenty-eighth in ordinary years and one fourteenth in leap-years.

Upon the inauguration of the work calendar, a concern may select any day it chooses for beginning a period. If it adopts the cumulative method of taking care of the extra days, its periods will always begin and end on he same day of the week. If it adopts the other method, its work calendar will always begin each year on the same day as the regular calendar, January 1, but on different days of the week in different years.

A list was prepared of over 70 large concerns in this country which are using the thirteen-period calendar for their internal records. Information was obtained by the writer from forty-eight of these concerns regarding their experience with this calendar. Some of the concerns using this method of control are:

Carter's Ink Company, Boston, Massachusetts
Crocker-McElwain Company, Holyoke, Massachusetts
Eastman Kodak Company, Rochester, New York
R. H. Foerderer, Incorporated, Philadelphia, Pennsylvania
Graton & Knight Manufacturing Company, Worcester, Massachusetts.
Hearst Publications, Incorporated.
Jewel Tea Company, Chicago, Illinois
Kendall Mills, Walpole, Massachusetts
Western Clock Company, LaSalle, Illinois

The Western Clock Company and R. H. Foerderer have used this calendar for over thirty years. Sears, Roebuck and Company have just announced that they will use the thirteen-period calendar for all their accounting and records beginning January 1, 1930.

In most cases the practice is to use the thirteen-period calendar for all internal records of both office and factory, including general books. Of course, if all the advantages are to be obtained, the application should be universal within the company. Those companies which use it in the factory only will undoubtedly encounter difficulty and confusion from the use of two systems, because they will have some statements on the thirteen-period basis and some on the regular calendar basis. If the plan is advantageous for the factory, there is apparently little reason why it should not be advantageous in compiling sales records and the many other records necessary for the administrative end of the business.

In the case of nearly every thirteen-period user, books were closed at the end of the period rather than at the end of the month. Quarterly reports and closings had been done away with by most of them, inasmuch as a quarter

consists of three periods and one week. They find it just as feasible and useful to issue cumulative reports by periods, having a report of, say, the second period, the third period, the first four periods, and so on, with comparisons with the corresponding periods of different years. If it is necessary to compare the first three periods with the second three, this can be done easily, whether this length of time exactly compares with the quarters under the regular calendar or not. Some concerns have three "quarters" of three periods each and one "quarter" of four periods. In seasonal business it often happens that the sales in four periods during the slack time of the year would not exceed the sales in three periods during the busy part of the year. Closing the books at the end of quarters of the regular calendar involves, of course, an extra closing and an additional report.

Statements to the trade are in most cases sent out according to the regular calendar, but the accounts receivable ledgers are closed according to the period basis. As to accounts payable, while the majority pay according to the regular calendar, a number have been able to make arrangements with concerns from whom they buy materials and services, and also with banks, to have statements rendered to them according to the periods of their work calendar.

Although not all companies had made any change in dates for paying their salaried employees, most of those concerns which formerly paid monthly now pay at the end of the four-week periods, an employee receiving one thirteenth of his annual salary each period. They reported little difficulty in putting their employees on this basis. It simplifies costs, of course, if the salaried employees are on the same basis as the other costs.

With one or two exceptions, little difficulty was reported in introducing the thirteen-period system, and the difficulties are principally of a kind that may be overcome in a year or two, such as, for example, making comparisons between the thirteen-month year and the preceding year when the statements and reports were compiled on a twelve-month basis. Fairly accurate comparisons can be made between the periods of one year and the corresponding months of previous years, but for more accurate comparisons, especially for the periods near the middle of the year, it may be necessary to convert previous years to the thirteen-period basis. The comparisons between the weekly reports of the two years would not be upset nor would the comparison between the cumulative weekly reports.

If a concern contemplates adopting the thirteen-period calendar, it is advisable to delay its introduction one year, so that during that year the statistics can be compiled according to both the regular calendar and the thirteen-period calendar.

The outstanding advantage of the thirteen-period calender is that all months are comparable without any adjustment being necessary for the unequal number of days or the unequal number of weeks found in the ordinary twelve-month calendar. More accurate cost, burden and production records can be compiled with less labor because no adjustments are necessary to reconcile weekly and monthly items. It is also advantageous in the factory to have the closing each month on the same day of the week and to have the end of the week coincide with the end of the period.

Company Experiences

The companies using this type of calendar have generally experienced few disadvantages in its operation. The chief disadvantage is that the rest of the world uses the twelve-month calendar, and statements are received and rendered on that basis. There is extra clerical work involved in thirteen closings instead of twelve, but the saving in other respects much more than offsets this item. The following are extracts from the reports of a few concerns which have used this calendar for a number of years:

Western Clock Company

. . . We have experienced no difficulties under our 13-month calendar plan. Our factory months are all of the same length, this year, last year, 36 years ago. When we prepare a financial statement, budget statement, sales or profit and loss statement, showing comparisons with any previous periods, these comparisons are always on the same basis, and no reconciling reports are necessary.

. . . We are very enthusiastic about our 13-months calendar . . . We have experienced much peace and enjoyment from its use and we would like to pass it on to others.

Graton & Knight Company

From a business point of view, I know of no real objection to the 13-period calendar. After using it in our business for over ten years, I venture to state that no real objections could be found against its universal adoption.

The 13-period calendar is not any panacea for business troubles, but statistics of sales, costs, expenses, *et cetera*, compiled, on this basis certainly help to make better comparisons and get facts more accurately.

. . . Under the monthly calendar plan, before comparisons were made it was necessary to determine the number of working days in each month. If you operate on a strictly monthly basis it is necessary almost every month to divide one week's pay-roll. This practically doubles the work of the pay-roll department one week each month.

. . . Our pay-roll records, sales and executive cost, sales, *et cetera*, are on the 13-period basis. Only where our activities touch the outside world do we have to consider the 12-month calendar. Included in these are:

Receivable Customers' Statements
Bank Statements
Payment of Purchase Invoices (if paid on 10th of following month)

. . . . .

The success which the Graton & Knight Company has had with this 'natural' or 13-period calendar inspires us to recommend it whole-heartedly to others.

The Fiberloid Corporation

Today, we have all kinds of statistical data built on a four-week basis, and covering a period of more than four years. One week after the close of each period we present to our management a complete set of financial and operating statements.

. . . This information is submitted to our executives, together with a memorandum pointing out the high spots. There is no necessity for the busy manager to stop and consider a variable time period when studying these statements. He knows we are talking of 28 week-days or 22 operating days, excepting holidays when they occur.

Fuller Brush Company

To remedy this situation (confusion due to split weeks) in 1924 we inaugurated the 13-period calendar, and thereafter as long as bonuses were paid they were figured by periods instead of months. This gave the representative the opportunity to earn his bonus on four regular weekly orders and the result was that split weeks became a thing of the past.

Although this change was made primarily to benefit the sales organization, its effects have been felt throughout the entire work of the company. We find that, working as we do on a weekly basis, it is much simpler to build up our months, or, as we call them, periods, by making them multiples of weeks . . .

Another feature in connection with the office work is that it enables us to make

more frequent closings of our books, all covering an equal period of time. This would appear to require a larger clerical force, but as a matter of fact such is not the case . . .

A Universal Thirteen-month Calendar

In view of the experience of the companies which have actually used the thirteen-period calendar, the question arises whether the universal adoption of this calendar would not be of distinct advantage to the business world.

A movement toward the general adoption of the thirteen-month calendar has been in progress for several years with prospects of success. It is one of two plans for calendar reform suggested by the League of Nations. That body in 1927 asked each country to set up a national committee to look into the question of calendar simplification with a view to an international conference on the subject. Such a committee has been formed in the United States under the chairmanship of Mr. George Eastman. Corresponding committees have been formed or are being formed in Germany, France, Holland, Austria and several Latin-American countries.

The American national committee has completed an inquiry which shows that a very strong sentiment exists in the United States in favor of the universal adoption of a better calendar, and that the thirteen-month plan is preponderantly favored. This committee's report was submitted to the Secretary of State last August, and transmitted by him to the League of Nations. It received the approval of a number of departments of the Government interested in calendar improvement, particularly the Departments of Commerce, Labor, Agriculture, the Navy and the Interior. The committee found that the "requisite conditions exist to justify the participation of the United States in an international conference to provide for the simplification of the calendar." More than 90% of nearly five hundred representative organizations which expressed to the committee a preference for a particular method of calendar change, chose the thirteen-month plan.

The thirteen-month plan, like the thirteen-period work calendar, divides the year into thirteen months of twenty-eight days each. It is generally known as the International Fixed Calendar. Each month would be as follows:

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28

The extra day in ordinary years would be called Year Day and would be placed on December 29 between Saturday, December 28, and Sunday, January 1, and Leap-year Day likewise on June 29. These two days would be "blank" days and would be observed as holidays or extra Sabbaths, without a week-day name, thus making each of the thirteen months contain exactly four weeks, and overcoming the objection of having to add an extra period every five or six years.

In addition to the advantages from the business point of view, the International Fixed Calendar has a number of other advantages. For instance, it is part of the plan to have all holidays on Monday. While this would be of great benefit to business concerns because they would not be forced to close their plants in the middle of the week, which is rather expensive, it would also be of tremendous benefit to people at large, especially to the

working people, to have holidays in conjunction with week-ends.

In lines of business where collections are made monthly, the 28-day month would bring about a quicker turnover. The same volume of business could be done with a smaller capital because of the shorter month, or a larger volume could be handled with the same capital.

It would also be advantageous to all persons in their home affairs, and to housewives in particular, to have exactly four weeks in every month, enabling them to budget their expenses on the same basis as their incomes. There would not be the difficulty now experienced of having some months with only four pay-days with which to meet the monthly bills. All periods of earning and spending would be equal to or exact multiples of each other.

Another feature of the plan is the provision for a fixed Easter—the second Sunday in April; the churches seem to be in favor of this plan. A fixed Easter would be beneficial to many industries, transportation companies and schools.

Objections to the Thirteen-month Calendar

Objections to calendar simplification chiefly emphasize the inconvenience and cost of changing from the present calendar to another. Assertion is made that the present calendar is good enough, and that the advantages to be gained do not warrant a change.

With regard to the thirteen-month plan, some of the objections are that a year of thirteen months is not divisible into quarters and half-years containing a whole number of months; that there would be thirteen business closings instead of twelve, involving increased bookkeeping; that it has thirteen Fridays, the thirteenth, and therefore is objectionable because of the superstition that such days are unlucky; that it will change most of our birthdays, holidays, and anniversaries, and cause confusion in historical dates; and that, by the insertion of Year Day and Leap-year Day, it interrupts the cycle of the weeks, which is objectionable to some religious sects.

The experience of concerns using the thirteen-period calendar shows that the advantages gained by having equal months outweigh such disadvantage as there may be in not having quarters and half-years containing a whole number of months. If it be remembered that the basic unit under the proposed new calendar is the week, more uniform than the present calendar week, it is possible under the thirteen-month calendar to have equal quarters of thirteen weeks each, and half-years of twenty-six weeks each. Furthermore, business is now generally established on the monthly basis, and the quarterly report has become of less importance. The increased bookkeeping caused by thirteen closings a year instead of twelve is more than offset by the decreased clerical work resulting from no longer having to make adjustments to secure accurate comparisons, and by the general advantage of closer control of business operations.

The objection with regard to changed anniversary dates is, of course, due to sentiment or conservatism. It is an objection which would affect only the present generation. Anniversary dates have been altered in the past. Because of the calendar change of 1752, when the British Parliament adopted the Gregorian leap-year cycle, the birthdays of George Washington and our American forefathers were altered

eleven days. Dates in history were for a time designated as "old style" and "new style," a practice which has long since fallen into disuse, for succeeding generations have found no need to make the distinction.

Endorsement of the Simplified Calendar

Universal adoption of the thirteen-month calendar has been endorsed in the United States by such bodies as:

National Association of Cost Accountants
American Society of Certified Public Accountants
Institute of American Meat Packers
American Pulp and Paper Association
United Typothetae of America
National Association of Retail Druggists
National Confectioners' Association

and many other industrial associations and corporations; also scientific and educational bodies, such as the National Academy of Sciences and the National Research Council.

A questionnaire relating to the International Fixed Calendar sent out in 1928 by the American Management Association resulted in three hundred replies of which 90% were in favor of its universal adoption. Those not in favor were not agreed in their reasons.

A similar referendum was conducted by Mr. George Eastman, prior to his becoming Chairman of the National Committee, among a thousand American business and professional leaders. Of six hundred replies received, 93% of those expressing an opinion were in favor of the International Fixed Calendar.

In a referendum conducted by the Chamber of Commerce of the United States, proposals for calendar reform all received strong majorities, and two questions relating to the participation of this country in an international conference received the two-thirds majority necessary to commit the national Chamber to the proposal. Approximately 3,000 votes were cast in this referendum.

The League of Nations is the logical organization to coordinate the work being done in various countries toward the simplification of the calendar. As soon as the different national committees find out the sentiment in their respective countries, an international conference will probably be called by the League of Nations. The International Chamber of Commerce at its meeting in Amsterdam last August passed a resolution urging the League of Nations to call this conference. The conference would decide the plan which should be adopted and the date on which it should take effect. It would then be necessary to have the required legislation adopted by the various countries. Such legislation would take care of the changes in dates of holidays, maturity dates of contracts, mortgages, bonds and so forth. An adjustment table with the corresponding dates under the old and the new calendars would be incorporated in the legislative act, and it would not be necessary actually to change the dates on existing bonds and contracts.

ELECTRIFICATION OF STEAM RAILROADS

By JOHN E. McCALLUM

RAILROAD transportation in this country has reached a degree of speed and efficiency that appears remarkable when compared with conditions prevailing in 1919 and 1920. During the last fifteen years the railways have devoted themselves to an intensive development of existing routes. Freight-traffic density has increased. In several cases substantial additions have been made to the multiple running tracks to provide capacity for moving the expanding tonnages in territories adjoining large urban centers.

Since construction programs must envisage conditions five, ten, twenty or more years in the future, excess capacity is a recurrent phenomenon for all railways. Ultimate and not immediate economies are the goal of major improvement schemes. Inasmuch as it is confidently expected that the present volume of traffic will be further augmented in the future, the question is whether preparation for increased traffic will be made according to established methods, in the form of increased trackage, or whether electric power will be introduced to utilize more fully the existing facilities.

Electric traction enjoys a wide application in many parts of the world. The tendency has been toward further extensions of the existing electrified sections of steam railroads and the undertaking of several new installations. Present interest in this phase of railroading rests upon the magnitude of current projects. In the last quarter of 1928 a heavy-traffic American road announced plans for electrifying route and track mileage representing more than a 7% increase in the electrified mileage of this country. The time seems appropriate to review the progress of electrification of steam railroads and to discover, if possible, the trend of new developments in this field.

Foreign Installations and Practice

Steam-railroad electrification has received more attention and study in Europe than elsewhere. The broader application of electric power to railways of that continent seems to be due to a combination of circumstances. Typical early installations, together with location, mileage and kind of traffic, and the reasons for undertaking them are given in Table I.

TABLE I. EXAMPLES OF EARLY EUROPEAN ELECTRIFICATIONS

Year	Name of Railway	Location	Electric Route Mileage	Traffic*	Reasons for Electrifying
1899	Burgdorf-Thun	Switzerland	34.80	F & P	Conserve fuel, heavy grades.
1900	Western	France	11.12	P	Increase facilities.
1901	Italian State	Italy	45.20	F & P	Increase capacity, conserve fuel.
1902	Italian State	Italy	88.80	F & P	Increase capacity, tunnels, grades.
1904	Austrian State	Austria	19.80	F & P	Water-power, tunnels, grades, economy.
1911	Prussian State	Prussia	281.00	F & P	Utilize lignite.

* F = freight; P = passenger.

These examples clearly reveal the nature of early European installations. Wherever on the Continent these conditions have been duplicated, the application of electricity has been carefully considered and in many cases adopted. The Spanish Northern Railways offers a current example of electrification to facilitate movement over a mountainous route.

Since the World War, state railways in Norway, Sweden, Austria, Switzerland and Italy have been extending their electrified mileage as a part of their national policies to save coal and utilize domestic water-power resources. In one district the German Government Railways are extending electrified operations in order to utilize domestic supplies of lignite, which are unsuitable for combustion in steam locomotives. It has been characteristic of European railways to design and construct their own equipment. As applied to electrification this has meant the specialization of apparatus to meet the peculiar conditions of particular routes.

Some countries have taken definite steps to standardize one system of electrification for all future work. State ownership is seen as the guiding influence in this direction. In a few cases this policy has been carried to the point of rebuilding previously constructed routes to conform to the new standard. Central European and Scandinavian countries favor alternating current for general traffic, with direct current on suburban lines; elsewhere direct current is more popular for both types of traffic. While European projects have been designed to meet the special conditions of mountain grades, tunnels and congested suburban movement, as well as general traffic on long-distance lines, it is noteworthy that programs of the latter type are found only on state-owned systems where economy in coal consumption is a national policy.

In Japan several sections of the Imperial Government Railways have been electrified. In Australia and South America there has been an application of English practice to suburban traffic problems. Electrical installations in South and Central America are proceeding rapidly. A considerable mileage has been operated from the first by electric power. Examples of electrified routes outside of Europe and North America are listed in Table II.

TABLE II. TYPICAL ELECTRIFICATIONS OUTSIDE EUROPE AND NORTH AMERICA

Year	Name of Railway	Location	Electric Route Mileage	Traffic*	Reasons for Electrifying
1913	Imperial Government	Japan	75.00	F & P	Increase capacity, tunnels, grades.
1916	Bethlehem Chile	Chile	15.00	F & P	Grades, scarcity of fuel.
1919	Victoria	Australia	143.00	S	Increase facilities, general economy.
1921	Paulista	Brazil	83.90	F & P	Increase capacity, grades, fuel scarcity.
1924	Mexico	Mexico	64.00	F & P	Conserve fuel, grades.
1925	Java State	Dutch East Indies	31.00	F & P	Conserve fuel, utilize water power.
1926	Government	Union of South Africa	171.00	F & P	Increase capacity over grades.
1928	Bombay, Baroda & Central India	India	23.00	S	Increase capacity, improve service.

* F = freight; P = passenger; S = suburban.

In Mexico, Chile and Peru, labor is cheap. Wherever these conditions prevail, the initial and maintenance costs of electric transmission and distribution systems are relatively low. Table II makes no mention of this factor.

American Installations and Practice

Electrification has proceeded slowly in the United States. Economic conditions have favored the continued use of steam power:

1. Coal is abundant and cheap.
2. Hydro-power has been developed only to a limited extent.
3. American railways, being privately owned, must be guided by financial return.
4. Labor costs are high.
5. Railway traffic is typically a heavy, long-haul movement.

As may be seen from Table III, reasons other than financial were determining factors in the first electrifications of American steam roads. For many years the application of electric power to railroads of this country was retarded by domestic conditions of a technical character, such as the following:

1. Sources of electric power were scattered and unreliable.
2. Initial cost of electric apparatus was high.
3. Competing equipment manufacturers were sponsoring different power systems.
4. Technical improvements in equipment design were frequent.
5. Data on the cost of electrified operations under American conditions were inadequate.

Before 1913, electric traction had been accorded only a limited application on steam roads in the United States. These early installations were largely copied from European practice. Nevertheless, success with small domestic undertakings provided the essential background for later and more pretentious projects.

Electrified operation of the Butte, Anaconda & Pacific Railroad was begun in 1913. Although more of a facility than a typical railway development, this installation represented the first American electrification of a short, heavy-traffic line for reasons of general economy. In 1915–16 and again in 1920, the Chicago, Milwaukee & St. Paul Railway proceeded with electrification of its mountainous route on a scale not previously attempted anywhere in the world. The Norfolk & Western Railroad, a heavy-traffic coal road, completed its first electrified section in 1917. Electric power was applied to additional sections in 1923 and 1925. In 1926 the Virginian Rail-

TABLE III. EARLY AMERICAN ELECTRIFICATIONS

Year	Name of Railroad	Electric Route Mileage	Traffic*	Reasons for Electrifying
1895	New York, New Haven & Hartford	10.50	S	Increase traffic by improved service.
1895	Baltimore & Ohio	3.60	F & P	Smoke in tunnel.
1900	New York, New Haven & Hartford	24.00	P	Increase traffic by improved service.
1905	Long Island	38.10	S	Legislation, smoke in tunnel.
1906	New York Central	53.40	P	Court order because of tunnel operation.
1906	Pennsylvania	74.60	P	Increase traffic by improved service.
1908	Grand Trunk	3.80	F & P	Grades, smoke in tunnel, increase capacity.
1909	Great Northern	5.75	F & P	Smoke in tunnel.
1910	New York, New Haven & Hartford	21.60	P	Legislation (New York Terminus).

*S = suburban; F = freight; P = passenger.

road began electrical operation of several mountainous sections of its route. Other roads, notably the New York, New Haven & Hartford and the New York Central, have extended their electrified mileage without encountering any novel problems. As the most recently completed suburban installation, the electrification of the Illinois Central Railroad at Chicago enjoys passing interest. In order to suggest the trend of American electrical undertakings, a closer analysis must be made of the special conditions which have confronted these railroads and of the results they have obtained on their electrified sections.

The St. Paul Railroad

The immediate problem faced in the St. Paul electrification was that of a line crossing numerous mountain ranges with grades of 2% or more and many tunnels. In several sections there are numerous 10-degree curves spaced close together. Heavy snow in the winter makes the problem of train movement very difficult. Temperatures as low as −60° Fahrenheit caused serious delays under steam operation. Although traffic is not heavy, it is a long-haul, through movement.

In 1925 the St. Paul Railway prepared a comprehensive survey comparing steam costs (estimated) and electric costs (actual) for 1923 operation of the electrified route. This report substantiated earlier hypotheses concerning the actual costs of electrified routes and the nature of the economies among operating charges to be secured under electric motive power.

Transportation costs were substantially reduced, notably in wages of engine and train crews, engine-house expense and emergency repair service. Appreciable economies were realized in elimination of helper service and of non-revenue ton miles occasioned by haulage of coal used by steam locomotives. Doubling of train miles on the heaviest grades was made unnecessary. Electric energy, purchased from a series of interconnected hydroelectric plants at favorable rates, proved to be much more economical than power from coal. The greater capacity of the electric locomotives made possible the movement of a larger volume of traffic at a lower cost than would have been incurred had steam operation been continued. An even greater tonnage could have been handled at even lower costs. The report substantiated the well-recognized theory that traffic must be heavy before electrification is likely to yield its greatest economies.

Because of the greater cruising range of electric locomotives, it was possible to dismantle a number of engine repair shops. The concentration of servicing and repairing at a few points reduced the amount of these expenses. Watering tanks and coal stations were entirely eliminated over the electrified route. It was the experience of the St. Paul that electric locomotives could be operated 5,000 miles before mechanical inspection and adjustments were necessary. Steam engines had to be inspected and adjusted at the end of each run of 200–250 miles. Electric locomotives of the New York, New Haven & Hartford Railroad undergo periodic inspection at the end of each 2,500–3,000 miles.

One of the outstanding features of the St. Paul electrification was the use of regenerative braking. Several economies were involved:

1. Wear on brake equipment was practically eliminated.
2. Train control on grades was much improved.

3. With proper dispatching, the train moving down a grade provided part of the power required by the ascending train. For 1927 this power saving has been calculated at 16.4% of all electric energy consumed.

The Norfolk and Western Railroad

The problem in the Norfolk and Western Railroad electrification was one of steep grades on a heavy-freight, mountainous route. The most difficult sections lie one on either side of the line's summit at Ruth, West Virginia. In the last five miles on the west side the grade gradually increases from 1.5% to 2%. The descending east-bound grade for 2½ miles is 2.34%. Heavy trains require enormous power on these sections. Electric engineers designed a motor which was rugged and could maintain a constant speed. The latter characteristic is an important advantage in maintaining predetermined and limited train speeds irrespective of grades. For the most part the electrified section is double track. By suitable dispatching, a large part of the power generated by descending trains is used to energize the motors of ascending trains. Regeneration has not been computed, but it is reasonable to assume the saving to be as great as for the St. Paul.

It is stated that estimates of increased capacity through electrification have been fully met. Unusually heavy traffic is handled without congestion.

The Virginian Railroad

On the Virginian Railroad the electrified division contains several tunnels, grades up to 2.07% and many curves, the sharpest of which are 12 degrees. Traffic conditions on this road with respect to class and destination are to a great extent unique. Tonnage east-bound consists of coal, most of which originates on the western division. This traffic is exceptionally heavy. West-bound movement is made up largely of empties. The capacity of the road on east-bound traffic is limited by what can be carried over the recently electrified zone. This is the most difficult section of the route. From a transportation standpoint it is desirable to handle the traffic east in as large units as is consistent with safe operation.

Under steam power, one locomotive and two helpers were required to move a train of 5,500 tons the 14 miles through the "bottle neck" of the system, and the time in transit was two hours or more. One electric locomotive and one pusher regularly move trains of 6,000 tons at a uniform speed of 14 miles per hour throughout the electrified zone and negotiate this particular section in 58 minutes. Electrification has increased the capacity of this section by 100% and has improved plant utilization of the system from end to end.

During one day in 1924 a total of 60,155 gross tons was moved over this section, later electrified, with Mallet engines representing a total weight of 7,952 tons, including tenders. This constituted a record tonnage for steam operation. On one day in 1925, electric locomotives of a total weight of 3,855 tons moved a traffic of 56,580 gross tons. When totaled over a year, the reductions in engine-weight trailing load of electrics has resulted in considerable savings in motive-power costs.

Suburban Railroads

The experience of the New York, New Haven & Hartford Railroad in adapting electricity to American rail-

way conditions entitles this system to special mention. Prior to 1907 one short section of line was electrified to provide better suburban service and, because of fatalities on an underground section, 48.5 track miles were electrified under civic compulsion. Today more than 650 track miles are electrically operated, and over a large part of this zone both freight and passenger trains are moved by electric power. The present electrified route of the New Haven is a splendid monument to the courage and efforts of its early officers. Extensions of electric traction were so gradual, however, that the experience of this road offers no assurance of the profitableness of a large electrical project when planned for immediate development.

Electrification of the terminal and suburban lines of the New York Central Railroad has closely paralleled developments on the New Haven road. Electric power was first introduced under the stress of a court injunction ordering removal of the smoke hazard on underground lines. From time to time the electrified trackage has been extended to cope with the steady expansion of traffic. Just at present the interest of officials of this railway centers in the use of oil-electric trains for branch-line service.

In August, 1927, the Chicago suburban service of the Illinois Central Railroad had been operated electrically for one full calendar year. A civic ruling for smoke abatement had forced the railway to undertake the installations. The number of local passengers had been declining, and prospects were discouraging. Service has, however, greatly expanded under electrified operation. The schedule has been increased from 396 to 566 trains per week-day without increase of trackage. Varying with the type of service, running time has been shortened by 11% to 28%, as a result of the more rapid acceleration of electric locomotives. In 1928 the volume of suburban traffic had become one third larger than immediately prior to electrification in 1926. Cutting the schedule time and eliminating the smoke nuisance have increased the desirability of living in outlying communities by bringing them all within closer reach of the central business district.

It seems noteworthy that within American experience only suburban areas and those sections of steam roads presenting the greatest physical difficulties have been electrified. Also, American railroads have relied upon equipment manufacturers both to design and to construct their motive-power units. European railways offer parallel problems, but conditions are so different that no conclusions can be drawn from any comparison with European practice.

The early technical obstacles to greater progress in the application of electricity to American steam roads have been substantially modified:

1. Power sources are more numerous and reliable.
2. Equipment-manufacturing concerns have not adopted standardization, but have greatly increased the flexibility and reduced the maintenance cost of their apparatus.
3. There seems to be room for a healthy development of each type of electric power.
4. Electric equipment has become relatively less expensive and more reliable.
5. Though major changes in electric-locomotive design may be expected in the future, obsolescence of current models should be no more rapid than for comparable steam equipment.

Electrification of the Cleveland terminus is proceeding rapidly. The

Reading Railroad is considering electrification of its Philadelphia terminus and suburban lines. The Lackawanna Railroad has commenced a large electrical installation.

New Installations: the Pennsylvania Railroad

In addition, there is under construction at the present time the largest electrical undertaking ever conceived by American railway men. The program of the Pennsylvania Railroad has attracted wide-spread interest because it applies electric power to a new grouping of factors. Plans of the Pennsylvania Railroad call for electrified operation of all main-line track from New York to Wilmington, and west from Philadelphia to meet the low-grade freight lines at Columbia, Pennsylvania. Throughout the zone to be electrified, grades are moderate and lines are multiple tracked with minimum curvature. Southern passenger traffic moving up and down the New York-Wilmington route is expanding. Through freight from the coastal region to the West and from the West to the Atlantic ports is heavy. Freight traffic has grown particularly heavy on the main line west from Philadelphia. Suburban lines of this road running into New York City and that terminus have been electrically operated for a number of years. Some suburban lines out of Philadelphia are electrified. Expansion in commuter traffic has led the company to undertake construction of an electrified underground terminus at this point.

While electrification of the Pennsylvania Railroad is to cost $100,000,000, the 40% to be invested in electric locomotives will not represent a new capital charge. The electrics will merely replace steam equipment which becomes obsolete. Additions to the investment in property throughout the electrified section will be approximately $200,000 per mile of road, or $50,000 per mile of track. At the present time the capitalization of the whole system is $194,000 per mile of route and $74,461 per mile of track. Were it not that the present investment per mile in the zone to be electrified is somewhat above the average for the system as a whole, the cost of electrification would approximate a doubling of the property investment per mile in this particular section. Since 1921, each annual statement of this road has reported an appreciable reduction in the operating ratio. With this figure at 73.8% in 1927, there was evidence that there would be difficulty in further reducing steam operating costs.

In the expansion of tonnage on its eastern division the Pennsylvania saw a threat to continuation of the high-speed scheduled freight and passenger service unless track capacity were increased. That electrification would assist the railway toward this ideal service could not be denied. Of the benefits to be expected from electrification the more important were as follows:

1. Doubling the capacity of existing facilities. Electrification defers for a number of years the need to construct additional tracks or to enlarge terminals.
2. An increase in the length of locomotive runs.
3. Ability to increase the speed and the number of suburban trains.
4. Ability to reduce the schedule time and increase the frequency of through passenger and freight trains.
5. The greater efficiency and lower costs of electrified operation of freight terminals.

The Pennsylvania Railroad installation is being made by sections. In the light of current traffic conditions

and despite the tremendous increase in property investment, it is conceivable that some immediate economies will be realized. Nevertheless, it seems apparent that this electrification will yield significant savings only as traffic expands to absorb a large part of the capacity being created by the new investment. Those behind this electrification possess broad vision and an indomitable confidence in the expansive power of American business.

Conclusion

Electrification as an engineering possibility has been established for every type of traffic. As a commercial proposition its application is still definitely limited. Steam, locomotive power has in its favor:

1. Relatively low investment cost.
2. Flexibility of power distribution.
3. Experience.
4. Avoidance of capital loss incidental to disposing of steam equipment.

From a financial standpoint certain limitations in the application of electric motive power must still be recognized:

1. Power rates will not be low unless the consumption of energy is fairly uniform. Such a dispersion of power load is possible only where there is a steady movement of trains during all hours.
2. Since electrification involves the exchange of fixed charges for variable operating costs, only those sections may be electrified where the traffic is heavy and where there appears to be reason for expecting an appreciable increase in present tonnages.
3. Major electric developments of the past have been favored by
(a) the relative inefficiency of steam engines in traversing difficult grades;
(b) the necessity of eliminating smoke in tunnels;
(c) the availability of low-cost hydropower.
4. As a general rule where coal is cheap, grades moderate, and additional trackage reasonably priced, the economies of electrification are in the future and not in the present operations.

American business men will do well to watch the unfolding of the Pennsylvania program. Today engineers can estimate more accurately than ever before the possibilities of electric power applied to any railway route. It is the opinion of one railroad president that increases in railway capitalization incidental to current improvement schemes find encouragement in intimations of rate regulation more favorable than in the past. On the outlook for 1929, General W. W. Atterbury, President of the Pennsylvania Railroad, is reported to have said:

> During the past year the railroads have also felt that they have become sufficiently secure, and the support of the public generally is so manifested through regulating authority, that projects of expansion and development could be entered upon with more than ordinary confidence.

If freight and passenger traffic continues to expand throughout the country, other American railways with dense traffic may find themselves faced with conditions approaching those which surround the latest major installation. The financial outcome of the Pennsylvania electrification is of national interest. Quite possibly a new phase of electric railroading has made its début.

But to the general public the term outgrown. But Mr. Rose does not

BOOK REVIEWS

INVESTMENT

"WRITING a book," says Lawrence Chamberlain in his preface to *The Principles of Bond Investment*[1], "is like flying a kite. It is easy enough once you get the thing off the ground and well started." There is where Dwight C. Rose in his *A Scientific Approach to Investment Management*[2] gets the jump on most of the other kite flyers who are aiming to draw the attention of investors to the science or the method of modern investment. He opens his preface with a rush of "human interest" which first catches and then holds the reader's undivided attention.

He begins with a vivid discussion between a successful banker and his nephew. They debate the comparative values of common stocks and bonds as investments. But there is today a still more advanced group of the younger, or should one say the youngest, bankers who go one step further and maintain that one no longer invests for income, but only for appreciation of principal. This seems to the older conservative a rather wild perversion. But part of the difficulty may come from a failure to define terms. The two groups may attach different meanings to the words "speculation" and "investment," or perhaps the younger group may be using the words without bothering to attach to them any definite meaning at all.

From a purely economic view-point Kirshman's definition may be acceptable that "investment is the commitment of funds to an economic undertaking," but most people do not talk in terms of pure economic theory. In the popular consciousness there remains a much more definite, though undefined, distinction between investment and speculation. After making due allowance for the fact that most people act from very mixed motives, one may say that in the one case the money is put into an enterprise with an immediate desire for income, in the other the primary motive is profit. If present stock market conditions lead the majority to buy securities largely for appreciation, that may represent a temporary technical position. It does not necessarily follow that all the old principles of investment have gone into the discard. Some day the old-fashioned investor may appear and ask for an investment of his funds which will enable him to live on his income and conserve his principal with the hope of gradual appreciation.

Edgar Lawrence Smith, in his *Common Stock as Long Term Investments*,[3] published in 1924, turned the attention of a large part of the investing public to common stocks as a proper investment. The idea in itself was not new. Twenty years ago some of the largest and most conservative banking houses were advising the investment of a certain percentage of the average client's money in common stocks.

[1] Revised and enlarged edition, by Lawrence Chamberlain and George W. Edwards. New York: Henry Holt and Company, 1927. 699 pp., price $7.50.

[2] New York: Harper & Brothers, 1928. 440 pp., price $5.

[3] New York: The Macmillan Company, 1924.

fluctuating dollar has temporarily the individual to save for old age?

But to the general public the term "investments" was more or less synonymous with bonds, or at least to their first cousin—preferred stocks. The idea that common stocks represented anything more than a speculative venture came as a genuine surprise. Before 1920, allowing for the fluctuations of the money market, the investor expected an average return of somewhere from 4% to 6% on his investment, according to the risk that he was willing to run. Nor did this seem an excessive return on the principal invested. Of course, if one bought common stocks one expected a much larger return, and the old rule that a common stock should not sell at more than ten times its earnings was pretty much the accepted rule of thumb. Today, however, the investor is asked to take an entirely different point of view. He is called upon to invest in common stocks which are selling at 30 and even 50 or 60 times their earnings. Allowing for the inevitable necessity, which every conservatively managed corporation must face, of building up and maintaining respectable if not ample reserves, it is difficult to see how the investor can expect to receive in cash more than 1 % or 2 % on his money if he invests it on such a basis.

If the so called investor is not in any way dependent on his income from invested funds, he may do very well so long as stock-market prices are sure to go up. But fundamentally it seems as though he had lost sight of the notion of investment as a means of receiving an adequate return on his money and had gone over to the notion of speculation, the primary purpose of which is appreciation of principal. It may be that the old idea of investment is permanently outgrown. But Mr. Rose does not think so. One of his contributions is his attempt to establish an adequate measure of investment accomplishment. Starting from the theory of riskless return on capital, he shows how a proper measure of results leads to the conclusion that most investors overestimate their accomplishment. Typical large investors like some of the insurance companies show a 3½% return. This is about equivalent to the riskless return on capital, and rates their investment skill at zero.

Now there are, as Mr. Rose shows, two points of view from which one may approach investment. One is the point of view of the dollar return, and in this he very properly takes the insurance companies as a standard of value, for the insurance companies have made contracts to return so many dollars in premiums and consequently are interested primarily in their returns from the dollar standpoint. But the general investor has an entirely different point of view. He is under the painful necessity of paying the grocer's bill and buying a new suit of clothes at a constantly increasing dollar standard. His invested dollar, therefore, should in some way reflect this increasing price range in order that it may be able to purchase for him at least the same volume of commodities. It is here, of course, that the fundamental appeal for the purchase of common stocks is made, because the common stocks should represent an increasing money return on the part of the corporations as the dollar depreciates and the dollar income of the corporations becomes correspondingly larger.

It may be that the mad scramble for investment securities which tend to fluctuate in accordance with the

fluctuating dollar has temporarily forced prices far beyond any reasonable hope which could be justified by increased earnings. But the change of investment emphasis to common stocks represents a real addition to the investor's knowledge and a corresponding broadening of the investment field.

One reason for the rush to common stocks is, of course, the tardy recognition of the changing value of the dollar. If we could have some form of stabilized dollar, such as Professor Fisher recommends in *The Money Illusion*,[4] we should have avoided the necessity for much of this readjustment. Then the swing to common stocks as investments might have taken place more gradually. The advance in share prices would have come more slowly because it would have represented only an increase in earnings. Now we have the additional complication of growing earnings represented in a depreciating currency. This, of course, means a much larger apparent increase in earnings and larger paper profits.

The stabilized dollar, however, according to some economists, is by no means so much to be desired as Professor Fisher would have us believe. According to Mr. Foster and Mr. Catchings,[5] under a money economy every producer, to keep in business, must sell his product for more money than he puts out in the cost of materials and wages. Where is this additional money to come from, especially if we consider the necessity which the corporation has of building up adequate reserves and the urge on the part of the individual to save for old age? It is not true, as many people imagine, that the authors would at this point conclude that savings should be abolished. On the contrary, their previous statements show the futility of such a course, for they have already pointed out that the sale price must be larger than the cost of production so that even if there were no savings there would be a deficit to be made up by some outside needs.

This, in spite of their protestations to the contrary, probably means the ultimate depreciation of the dollar, which comes from an increase in the amount of money or credit in circulation. But the authors suggest three principal immediate ways for making up the money deficit. These are: (1) expenditures for new, productive supplies—new buildings, machinery and so forth—before these come into actual productive use and add to the supply of consumers' goods on the market; (2) a favorable balance of foreign trade which under our present conditions is financed largely by loans. This enables us to dispose of surplus goods. And since the high tariff prevents these exports from being paid for with imports, the supply of goods for sale in this country is not increased and the loans by which payment is made are one of the sources of supply for the necessary new money. (3) Government expenditures, that is, taxpayers' money paid out for all sorts of new construction, none of which is presumably for productive purposes. Such expenditure increases the immediate supply of money without adding to the supply of commodities offered for sale. Presumably the authors believe that the Government can be of great help here through the regulation of these expenditures at

[4] New York: The Adelphi Company, 1928. 245 pp., price $2.

[5] *Business Without a Buyer* by William T. Foster and Waddill Catchings. Boston: Houghton Mifflin Company, 1927. 205 pp., price $2. *The Road to Plenty*. Boston: Houghton Mifflin Company, 1928. 231 pp., price $2.

the proper time. But many books on unemployment have urged this for years. So far they seem to have produced no effect on the politicians' desires to have government expenditure come at the time most useful for election purposes.

The crucial point of the Foster and Catchings plan is a government commission which collects information and tells people what to do. But the most scientific business bureaus in the country are still puzzling over the question as to just what information is significant. The serious difficulty which faces every student of economics is how to interpret the information which is before him. The standard of ethics which the Christian Church tells us leads inevitably to happiness here and hereafter has been thrust before people's eyes for nineteen hundred years, and only a pitifully small number of people follow it. Where is this super-committee coming from, of which the authors speak so complacently? And by what gift of tongues will they suddenly acquire the ability to make the average business man act on their suggestions? When they advise expansions—more construction and more money and advancing prices—the business world will gladly follow. But when they sound the note of warning—contraction, decreased profits—then why will not people say, as in 1920, "The other fellow's business may need contraction but mine is all right. If he contracts, so much the better for me."

What, now, is the relation of these ideas to investment theory? If the theory of Mr. Foster and Mr. Catchings is correct, then we should have the intelligent investor putting most of his money into something which represents at least a hope of appreciation. If the volume of money must tend to increase just a little faster than the volume of consumable goods, then we face the inevitable advance in commodity prices, and fixed investment will continue to have the disadvantages under which it has suffered during the last twenty years. If, on the other hand, we can, over a long period, have the fairly stabilized dollar of the past few years, there seems no reason why a bond investment is not a perfectly good solution for the man who asks only to maintain his principal and the purchasing power of his present cash income, and does not wish the attendant risks of more profit-making investments.

It was in 1909 that Mr. Chamberlain published his *Principles of Bond Investment*. At that time the science of investment was just beginning to appear above the dead level of daily practice. The book was clear and able, and became almost at once the investment Bible for bond houses, though it failed to enjoy the wider reading among the investment public to which its merits entitled it. Since the War there has been a tremendous rush toward investments in common stocks. The general impression is that bonds as investments have been entirely neglected. And yet it is typical of the change in our whole point of view that the new edition of Mr. Chamberlain's book published in collaboration with Mr. Edwards,[6] should contain many rewritten sections and several additional chapters on such subjects as Foreign Loans, Hydroelectric Bonds, and a long chapter on Industrial Bonds. For the investor who looks for the stabilized dollar, Mr. Chamberlain's book is still a standard authority. He has

[6] See note 1, *supra*.

very wisely in the new edition confined himself to the field in which he won his early reputation, and the new book, like the old, deals only with bond investment. As to what the future has in store for bond investment, probably very few people would dare to predict.

The idea of investment for fixed income represents the conservative view-point. Under our present state regulations many large organizations such as insurance companies and savings banks have almost no other outlet than bonds and mortgages for their investment funds. But the new generation is asking for an orientation. It wants to know the principles on which sound investment may be made in common stocks. Probably Mr. Rose's new book will soon be, if it has not already become, the most authoritative representative of this modern view-point. His introduction, as was stated before, is a remarkably clever presentation of the investor's problems from that angle. His introductory chapters are merely an attempt to give the reader a background and do not require any especial comment. His real contribution begins with his attempt to measure the value of investment experience. Starting with an exceedingly interesting analysis of the investment experience of 25 of the largest fire-insurance companies in the United States, he shows how little, from the investment point of view, they have really accomplished. They have accumulated with the most painstaking skill actuarial tables for the issuing of insurance which enables them to handle their immediate problems with almost mathematical accuracy, but they appear to have been perfectly satisfied with an investment method which, on the whole, has yielded them practically nothing more than the riskless rate of return on capital. This probably is partly due to the fact that they have not had a skilful method of measuring their investment return. It is this problem which Mr. Rose handles with great judgment. But the average investor is even less critical in his analysis than the insurance company. It might be startling if all investors subjected their investment returns to this type of critical examination.

Not only does the average investor know practically nothing of investment banking, but also he suffers from the hampering effect of certain traditional methods which have been handed down to him and which have survived in spite of their ineptness. One of the most dangerous of these is the theory that a security may not be sold if it shows a loss from the price originally paid. It seems probable in the last few years that the theory that there is no such thing as a permanent investment has really made some headway. But when it comes to selling a security at a loss it is very difficult for the average investor with his inherited traditions to face the situation. As a matter of fact, however, an investment represents so much liquidated cash—that amount represented by the price at which the security could be sold at the moment that it is being considered. "Anyone suspicious that his judgments may be warped by the orthodox accounting attitude toward his investment accomplishment would do well to sell every security on which he has a heavy profit or loss; then, with his broker's checks in hand, decide whether he will buy the stocks he has just sold or others."

Placed in this position, most investors would invest their money in other securities. But the investors of the

old school have great difficulty in accommodating themselves to feeling that a security is simply so much potential cash. One reason for this, perhaps, is the old accounting theory which carries securities on the books at the price at which they were bought. This hampers a proper realization of the actual condition of one's investments. One purpose of accounting, from the point of view of the investor, is to know exactly where he stands at the moment. The surest way to know is to carry securities at the price at which they can be sold in the market at the time when the accounts are being made up. This idea is not necessarily a new one, but Mr. Rose has made a real contribution in the emphasis which he has placed upon it.

When it comes to the building up of a conservative investment plan, Mr. Rose does not depart so very far from the principles laid down by the older books on investments. He is by no means ready to exclude bonds from the list of investments. But he emphasizes the advantage of investment in stocks, when investing to maintain purchasing power. Under our present monetary system, we are not certain of a stabilized dollar. Everyone knows that the purchasing power of the dollar is much less than it used to be; in addition, our standards of living are constantly going up. In the last analysis the question of what we require to live on is largely a question of the things in use and of the method of life of the particular group to which we happen to belong. It requires very little thought to see how modern invention has changed our whole point of view as to the things that we require. Two or three years ago the common laborers employed by one of the large corporations of the Middle West made a demand for a considerable increase in wages. The employment manager, in order to satisfy himself, made a study of the expenditure and visited a large number of families, asking them how their money was spent and what they considered necessary for living. It was with considerable astonishment that he discovered that a large number of the workers considered taking the entire family to the movies anywhere from one to six times a week an essential part of the family expenditure. In 1875, the price level was practically the same as it is today. But one can readily see that 50 years ago the standard of expenditure in homes of the same social position was probably on an entirely different basis from today. The significance of this fact is that we must have more money to spend than formerly. The working men have gotten it in greatly increased wages. They no longer walk to work with a tin dinner pail. They drive in their own automobiles. Those whose income is in any considerable part from invested funds feel just the same urge to have and to spend. At the moment they may feel justified in spending part of their profits though it may be in the form of principal. But stock-market prices can not continuously go up unless we enter on a period of definite inflation. The investor then must face the inevitable fact that his expenditure is cutting into principal, or he must invest for income and live as people used to live, on the income of invested funds.

When it comes to the final question as to just what securities to buy, the list daily grows larger and the question more complicated. Not only must the investor select his individual securities with superjudgment, but also

he must pick these from the group which is at the moment on the upgrade. New England investors are still suffering from the failure to recognize that after 1920 the cotton-manufacturing industry was entering on a period of decline. The investor, on the other hand, with sufficient foresight to recognize the enormous potentialities of radio and airplane has reaped a reward for foresight greater perhaps than the circumstances as yet warrant. Nevertheless, he has properly profited from his capacity to look intelligently into the future.

All this leads to the necessity for the expert. Mr. Rose, who is by profession an investment counselor, shows considerable reserve in leaving the reader to draw the inevitable conclusion. But it is undoubtedly a question which the investment banker, as well as the individual investor, must face as to the future trend of investment banking. Is it true, as Mr. Rose very cleverly points out in his introduction, that the investment banker as such is inevitably committed to the sale of the narrow group of securities in which he is personally interested, and that consequently the investor who puts himself in such hands must suffer accordingly? Should the investor follow the swing toward the independent investment counsel? Can the investment banker readjust his business to meet present demands of the investing public? These are questions which the future must answer.

ARTHUR V. WOODWORTH

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AGRICULTURE

A great deal has been written about the distressed condition of the American farmer and as many remedies have been suggested as there are economists, business leaders and politicians. This mass of literature, however, contains little that is in the nature of a valuable contribution to the economics of the subject. The five books here reviewed have been chosen more or less at random from the books on agriculture published in recent months. The group does not pretend to be a selection upon the basis of merit. The subject matter varies, the points of view are widely diverse, and the purposes of the authors are different. Some of the books represent vastly more work than others, and differences in the quality of the work are readily discernible.

A timely study has been made by Professor John D. Black in his book *Agricultural Reform in the United States*.[1] The volume is a soundly reasoned discussion of the current agricultural situation. With so much careless and superficial consideration being given the subject elsewhere, it gives marked satisfaction to read a directly relevant study by an outstanding scholar in the field.

The book is in five principal parts: (1) a brief analysis of the present condition of agriculture, and a survey of efforts made to remedy the situation; (2) an analysis of the three kinds of surpluses, (a) due to overproduction and (b) due to weather, and (c) seasonal, and of their effects on prices of farm commodities; (3) an analysis of the major proposals to raise prices by government action,—tariff, the equalization-fee plan, export debentures and the domestic-allotment plan—the last being an original suggestion by Professor Black; (4) a description of relief through individual and cooperative

[1] New York: McGraw-Hill Book Company, Incorporated, 1929. 511 pp., price, $4.

adjustments; and (5) a brief statement of the changes that are needed in production, land utilization, transportation, marketing, credit and taxation.

Several significant conclusions are reached as a result of the study. It is shown that the distressed situation of the farming industry is not a fiction, and that there is need for a more vigorous program of agricultural reform than has thus far been undertaken. "The agricultural people of the United States are not sharing as they should in the prosperity of the nation, . . ." This is a fortunate initial step in Professor Black's study, as a good deal of sentiment has entered the analysis of the farmer's welfare.

The next conclusion deals with the matter of surpluses. Supply-price curves for various commodities are presented which indicate in a vivid way the reaction of prices to changes in supply. The gross values of cotton and potato crops were found to decrease with size; of wheat crops, to increase; of corn and oat crops, probably, to decrease; and of meat products, to increase, but at a diminishing rate, and recent data indicate a tendency in the opposite direction.

The conclusions reached regarding price raising by government action, are especially interesting. Professor Black proposes a plan to supplement the tariff and export debenture methods, which he calls the "domestic allotment" plan. This plan, to use his own words, "calls for the difficult task of assigning quotas to townships and making allotments to individual producers, as is now done by some milk producers' associations in the United States." Having reviewed the various price-raising methods at hand, the author indicates the crops best served by each: import duties, for wool, sugar, flaxseed, beef, lemons and possibly dairy products; export debentures, for pork and poultry products; domestic allotment, for wheat and cotton.

Professor Black's conclusions regarding agricultural reform are given succinctly in the following sentences taken from his concluding chapter: "The specific reforms and readjustments needed in agricultural production are: larger, family-sized farms; more use of power and machinery; more extensive cultivation of the poorer lands or their conversion to pasture or forest; more intensive cultivation of the better land in terms of capital goods, not labor; heavier feeding of the best live stock and less feeding of poor live stock; more specialization (less diversification) in the areas of general farming; more live stock in most of the areas now producing one or a few crops; and quicker adjustments to fundamental changes in economic conditions, such as competition with other areas at home or abroad. Large-scale factory farming will have very little development; chain farming will have somewhat more development. The family-sized farm will continue to be the principal unit in agricultural production."

Regarding land utilization, Professor Black concludes that the problem is one of getting land out of production, rather than into production. As to immigration, in the long run a freer attitude would tend to lower the rural standard of living and, accordingly, is undesirable. Improvement of waterways would be of almost negligible benefit to agriculture immediately, but might help in the long run by decentralizing industry. The marketing of farm products can be improved by integration, and the cooperative organization is best adapted to the task.

Credit reform can be accomplished through the adjustment of the Federal Farm Loan and Intermediate Credit System, and by eliminating the more poorly managed commercial banks in rural districts. The basis of farm taxation should be changed from general property to the income tax.

Professor Black employs a style of writing which shows that he is considerate of his readers. Introductory paragraphs are given before each subject is discussed, to enable the reader to understand the approach to be made; transitions are carefully made, and conclusions are clearly designated. In some instances, however, an impression is given that the author was hurried in his writing, and his style and the convincing quality of his arguments are slightly impaired as a result. The book as a whole, notwithstanding, is forcefully written and is an outstanding contribution to the literature on agricultural ecomonics.

A pessimistic view of farm relief is given by Edward Sherwood Mead and Bernhard Ostrolenk in their book, *Harvey Baum.*[2] It is a short book, written in popular style, and its purpose does not seem to be more than to present a brief and approximate analysis of the farm situation and a logical commentary upon the apparent hopelessness of economic relief.

The theme of the book is set forth by telling the story of an average farmer in Pennsylvania, named Harvey Baum. Mr. Baum had succeeded with difficulty in making a living and in raising a family from his 70-acre farm, the principal cash crop of which was potatoes. The years 1922 and 1923, however, were disastrous. In 1923, Mr. Baum was influenced by experts of the Pennsylvania State College to employ scientific farming methods. His efforts in 1924 and in subsequent years were rewarded by exceptionally good crops, which, even with low prices in 1924 and 1927, made his operations unusually profitable.

Mr. Baum disappears from the study at this point, and the case of the American farmer is taken up. The authors show the desperate plight of the agricultural population by itemizing farm operating expenses and comparing the total with farm revenues. In 1926, upon this basis, the average American farmer received $790 for his own labor, the work of managing the farm, the labor of his family and the return on his investment. Harvey Baum's remedy, scientific agricultural methods, when applied to the whole of agriculture, results in a paradox. Low-unit costs and high yields can be secured, and have been secured by individual farmers, but if such an improvement should take place upon a wide scale, the resulting increase in production would bring ruinously low prices.

Hence the pessimism. Some hope is pinned on cooperative marketing organizations, which, at present, not being subject to restrictions against combinations in restraint of trade, might accomplish something in controlling supply. The ability of cooperative associations to reduce the volume of production, and to perform marketing functions more economically than at present, however, is questioned. In addition, a violent protest might be expected if steps were taken by cooperative associations to raise agricultural prices, and thus to have the city population stand the cost of farm relief.

Two conclusions stand out in the reasoning submitted by Mead and

[2] Philadelphia: University of Pennsylvania Press, 1928. 149 pp., price, $2.

Ostrolenk: (a) the futility of so called farm-relief methods, and (b) the ultimate necessity of the painful elimination of the surplus farm population. The book is occupied chiefly with the former subject, as relief is a popular theme. Additional consideration of the second conclusion would have improved the study. The statements, "If left undisturbed by legislation, the farm situation will work out to its inevitable end, the elimination of the submarginal farmer," and " . . . about 15 years would be required for the transition, . . . ," give an impression of fundamental economic doctrine. They ring more true than do many of the reasons given for the conclusion that all efforts at farm relief are futile.

Cooperation has been brought into the limelight of attention by the recent interest in farm relief. The lesson of the bundle of fagots, identified with the youth of King Alfred, has been recited to urge farmers to organize. Political and economic demagogues have distorted the concept of what legitimately may be expected of cooperative organization of agricultural interests. In this situation, a scholarly study of the subject is conspicuous, and represents a valuable addition to economic literature.

Edwin G. Nourse, in his book, *The Legal Status of Agricultural Cooperation*,[3] has done an eminently worthy piece of work. He is an economist of recognized standing, so the study is soundly grounded in an intelligent understanding of the agricultural industry and of cooperative organization. He has conducted careful research in the law of the subject, with the result that the significant material is presented in non-technical and easily read language. A lawyer, in making the same study, might draw finer lines of differentiation in certain instances than Mr. Nourse has done, but it is doubtful if such a study would be especially useful other than to members of the legal profession.

The author has examined the State and Federal statutes and the court decisions which bear upon his subject. Legislation has taken three forms: (a) enabling acts for the formation of cooperatives; (b) acts tolerating the monopoly characteristics of cooperatives, and (c) acts dealing with the internal operation of cooperatives. The court decisions have to do principally with the control of membership, with the equitable remedies of injunction and specific performance to require members to deliver their crops to the cooperative, and with cases in which it is charged that a particular cooperative association is operating in restraint of trade. The specific statutory and common-law status of agricultural cooperation, both historical and contemporary, is described, and illustrative material from statutes and court records is quoted freely. Thirteen appendices are included, which contain the text of model laws and of typical organization forms.

The principal conclusions reached by Mr. Nourse as a result of his study of the legal status of agricultural cooperation, may be summarized as follows:

1. Agricultural cooperative associations are organized under special State laws, most of which are modeled after the Bingham Cooperative Marketing Act, Acts of Kentucky, 1922.

2. Legislation and court decisions have come to accept the contention that cooperative associations in the agricultural industry are not in restraint of trade.

3. The rights of cooperative associations to control their membership and to enjoy

[3] New York: The Macmillan Company, 1928. 555 pp., price, $3.

equitable relief from the withdrawal of crops by members, are recognized.

The foregoing conclusions are deductions from an objective historical and analytical examination of evidence and do not reflect an appreciable element of the author's opinions. In the final chapter of the book, however, Nourse essays several points that constitute his appraisal of the soundness and desirability of agricultural cooperative institutions in their present legal status. Significant among these is the suggestion that it is "both inept and unnecessary for cooperative institutions to be developed as class legislation applicable only to agriculture." This opinion, together with others, has a convincing quality, having been deduced from a scholarly examination of relevant material.

An incident in the history of agricultural economics has been treated by Frank M. Surface, economist for the United States Grain Corporation. His book, *The Grain Trade During the World War*,[4] is the story of the mobilization of the grain resources of the United States during the war years of 1917 and 1918, and during the subsequent period of European relief. The volume is an interesting chronicle as well as a valuable contemporary record of a dramatic economic episode attending a national emergency.

The book deals principally with the formation, organization and operation of the United States Grain Corporation. The material is taken from original sources, so a vivid quality is present. Preliminary chapters indicate the general world grain situation prior to 1917 and the need for control as a result of our entrance into the War. Concluding chapters describe the European relief operations and the eventual liquidation of the Grain Corporation. Because Mr. Herbert Hoover and Mr. Julius Barnes were so prominently identified with the Food Administration and with the United States Grain Corporation, the book in large measure is their business biography during the War and immediate post-war years.

The function of an historian is to present accurate and complete records of events, taking care to evaluate the significance of the various incidents. Commentaries of opinions are not essential and sometimes are undesirable although frequently they are interesting. Surface is to be commended for the presentation of a wealth of source material, and for avoiding undue expression of his own reactions to the situations and events described. The insistence that Mr. Hoover was passive in the negotiations fixing the price of wheat in August, 1917, which seems an unnecessary inclusion, may be excusable, since Surface was writing during the months when Mr. Hoover was being considered for the presidency of the United States.

It is not so easy, however, to pass over the fact that readers are given a definite impression that the smooth operation of the Grain Corporation was scarcely at all interrupted. Without doubt, Mr. Hoover and Mr. Barnes did excellent jobs, but it is unreasonable to suppose that the difficulty with Mr. McAdoo of the Railroad Administration early in 1918, the velvet-bean fiasco late in 1917, and a few other reversals, were the only seamy incidents in the administration of the Grain Corporation worth mentioning. Writers of contemporary history seldom escape the tendency to glorify. It is for artists to paint heroes; historians should paint men.

[4] New York: The Macmillan Company, 1928. 679 pp., price, $6.

In style, occasional narrations in Surface's work are engrossingly interesting. This is not a consistent quality, however, as many events possess inferior dramatic possibilities. The organization of the material is adequate, but a more strict adherence to chronology or a simpler classification of topics probably would have added to the effectiveness of the work. Quotations from documents add to the interest and persuasiveness of the history. Mr. Surface, in summary, shows himself to be a versatile and thorough chronicler.

In the field of agricultural text-books, Professor Fred R. Yoder, of the State College of Washington, has written a useful book called *Introduction to Agricultural Economics*.[5] It is one of the Crowell Social Science Series. The book represents elementary text material for an orientation course in the study of agriculture. Like many other authors engaged in academic activities, Professor Yoder in preparing his book has drawn heavily from his experience in giving introductory courses in agricultural economics in the three land-grant colleges with which he has been associated.

There are two essential aspects of the book: (a) a description of American agriculture, and (b) statements of principles of agricultural economics. The usefulness of the factual material regarding the farm industry is augmented by the occasional inclusion of brief introductory historical surveys in the consideration of a subject, or of definitions and theoretical background. The presentation of principles, which tends to be an essential responsibility of one writing on such a subject as agricultural economics, is not accomplished so well as the description of the industry. The explanation is largely inherent in the subject; it is difficult to formulate general principles in a social science, and a dearth of scholarly attention has been given the subject of modern agriculture. In the general features of his book, Professor Yoder has provided a good beginning for a thorough presentation of a factual description of agriculture, and he has pioneered a short distance in the deduction of a body of carefully reasoned principles which govern the reactions of economic forces in agriculture.

HORACE N. GILBERT

[5] New York: Thomas Y. Crowell Company, 1929. 472 pp., price, $3.

ADVERTISING

Books on advertising, in the last two or two and a half years, have been appearing at certainly no diminished rate. Always an articulate and self-conscious group, advertising pro- and antagonists have been encouraged to greater activity by the general attention focused on all aspects of selling by the visible changes in our channels of distribution.

Formerly, books on advertising were rather largely of the text variety. Starch, Hotchkiss, Kleppner, Herrold, Sheldon, Hall and Wolff are typical of the older, if such recent books may be termed older, school. Straightforward exposition, they move with measured tread over a definite field which could be laid out in logical plots for the instruction of the novice. Advertising was a fact, and its principles could be expounded as those of any other science.

No such unanimity of point of view in the books of the last thirty months reassures the reader. With one or two exceptions, the books under present inspection can be divided into

two kinds, the one studying some particular phase of the craft of advertising with implicit confidence in the soundness of present methods of advertising; the other, explicitly or implicitly critical of the whole basis of modern advertising. Probably the most significant aspect of these books, taken as a lot, is the direction of the trend they point. Tempting though generalization is, however, it will be better if we glance briefly at a few representative books.

One of the first of the applied books that comes to mind is Dwiggins on layout.[1] Already Dwiggins' vast reputation is making a legend of him. The preface of the book strikes the keynote of the whole study both as to point of view and as to charm and informality of style:

"This book is a statement of one person's opinions about ways to make printed advertising effective. Consequently, it can not be expected to provide tested methods of procedure or to exhibit model arrangements. It offers a method for attacking the problem of advertising layout, not a solution of the problem."

After an all-too-short discussion of the "apparatus of layout"—paper, type, lettering, ornament and pictures—the author comes down to cases. Space advertising, both newspaper and periodical; direct advertising; position-advertising, including street-car cards, window cards, billboards and signs; packages; and stationery are discussed. An abundance of marginal sketches and layouts in various stages of development reinforce the paragraphs of the text and add immeasurably to the interest of the book.

[1] *Layout in Advertising*, by W. A. Dwiggins. New York: Harper & Brothers, 1928. 200 pp., price, $7.50.

A different manner of book altogether is Surrey's *Layout Technique in Advertising*.[2] While far from being pedagogical or stodgy, Surrey makes an effort to tell people who do not know how to lay out a bit of display copy what steps are to be taken. A list of chapter headings will point at once to the chief merit and the major defect of the work:

Layout in Relation to Media; Division of Space; Focus, Field and Fringe; Arrangement of Units; Static and Dynamic Design; Twelve Variables of Layout; Headlines; Shaping and Placing Illustrations; Typography; Placing Product or Package; Trade Names; Trade Marks; Trade Characters; Borders; Ornament; Coupons; Pointing Devices; Backgrounds; Type Mortises; Perspective; Lighting; Contrast; Symbolism; Twenty-five First Principles (a summary).

Without doubt here is information on the points that must receive attention. Yet there are only 226 pages of text, including 65 full pages of illustration. An average of 6.7 pages of text is devoted to each chapter. One can not help but wish that Mr. Surrey had developed his points more fully. Too frequently, chapters seem to be only introductions to the points they are intended to develop, and the reader leaves them with a feeling of frustration.

Another book that attempts to lead the learner through the puzzling stage of apprenticeship in a specialized field of advertising is Lockwood's *Industrial Advertising Copy*.[3] In intention and approach, the book is sound. Industrial

[2] By Richard Surrey. New York: McGraw-Hill Book Company, Incorporated, 1929. 229 pp., price, $4.

[3] By R. B. Lockwood. New York: McGraw-Hill Book Company, Incorporated, 1929. 328 pp., price, $3.

advertising is recognized as a junior department of the whole, but one in which special conditions require specialized consideration. There would seem to be opportunity for a thoughtful and significant treatise on the specialized field. Unfortunately, the author allowed his desire to teach to overlook this opportunity in the book. Instead of a specialized contribution, Mr. Lockwood has written an elementary introduction to advertising with a specialized inclination only. The elementary character of the work is emphasized by the type of "Test Questions" that conclude each chapter; the questions rarely require more than the recalling of statements in the chapters to which they are appended.

Only when Mr. Lockwood writes informally of his own experience, as he does in Chapter IV, "Finding Material for the Copy," does he interest the seasoned reader. Too frequently he attempts to rationalize present practice by a startlingly brief history of human accomplishment. Without doubt, *Industrial Advertising Copy* has much in it that will help the beginner. The critical reader will wonder, though, whether standard advertising texts, such as that of Tipper, Hotchkiss, Hollingworth and Parsons, have not made the same material available for the last ten years.

A book of an entirely different sort is Dippy's *Advertising Production Methods*.[4] To many executives, the mechanics of advertising production form a *terra incognita*. A few books on printing processes have long been available, but they have generally been written for the men who themselves do the work. Dippy's book is a non-technical explanation of the various processing functions and operations. His readers will hardly be able to earn their keep as printers or as lithographers on the basis of a perusal of the book, but they will most certainly be able to plan and order printing and illustration.

The book takes up: Ordering Typography, Machine Composition, Ordering Electrotypes, Planning and Ordering Photo engraving, The Ben Day Process, Preparing and Ordering Printing, Rotogravure, Offset Lithography, The Silk Screen Process, Jean Berte Water-Color printing and other similar points. In all of the discussion, the voice of experience speaks.

In addition to the descriptive chapters, mention must be given to the glossary of technical terms—an invaluable aid to the man whose experience with practical printing is limited—and to the final chapter, "Hints for the Beginner," in which an approach to the task of learning to thread one's way through a maze of copper-plate electros and monotype composition is suggested. Unlike many such chapters, this one is not only worth reading, but worth re-reading. Unless one has a thorough understanding of the jargon of the printer, and is thoroughly conversant with reproduction processes and their application, *Advertising Production Methods* is an essential book.

Equally important to the business man, whose relation to advertising is that of puchaser, is the description of the organization and operation of the representative advertising agency by Keeler and Haase.[5] The scope of this book can be adequately indicated by a list of chapter headings:

[4] By Albert W. Dippy. New York: McGraw-Hill Book Company, Incorporated, 1929. 318 pp., price, $4.

[5] *The Advertising Agency*, by Floyd Y. Keeler and Albert E. Haase. New York: Harper & Brothers, 1927. 292 pp., price, $6.

In General and a Bit Historical, Office Layout and Office Overhead, Ideal Organization Chart, Legal Sign Posts in Agency Procedure, On What Basis Should New Clients be Sought? The Service Department, Collecting Distribution and Marketing Data, The Operation of a Production Division, The Duties of an Account Representative, How an Art Director Works, The Space-Buying Department, Handling Advertising in Foreign Countries, The Financial Department, Some Thoughts on the Future.

Nominally, this study was made in the interests of better agency procedure. But its most valuable service is undoubtedly offered to the business executive who, without being an advertising specialist, yet has to deal with an advertising agency. There is probably no shorter way to learn just what the advertising agency can and should do for its clients than by reading these pages and learning how best to exact this maximum service.

Broadcast advertising by radio is a new medium on which there has been gathered no great body of experience, for which there is an audience of unknown size and inclination, and for which there are apparently special conditions. The primary question the executive faces is not that of choosing a type of program, but of deciding whether or not to use radio broadcasting. For this reason such a book as Dunlap's *Advertising by Radio*[6] will be eagerly scanned. Its service in answering this primary question, however, is doubtful. Dunlap holds faithfully to the keynote he strikes in the first paragraph of the first chapter: "Radio broadcasting is a growing and recognized aid in advertising and sales promotion. It is a full-fledged advertising medium. Why? Because it has entrée to millions of people sitting comfortably at home. They are likely to be in a receptive mood. There is a chance to make a friendly contact. It is then that manufacturers have a golden opportunity to entertain their customers and dealers right at the moment when they want to be entertained. Some day the radio-set owner, feeling kindly toward the man or product that has added to his joys of life in leisure time, may reciprocate and buy what the broadcaster sells. The retailer, aware of the manufacturer's effort to establish good-will for his product, will stock the product so that he too can cash in on the broadcasting."

The argument of the book is briefly this: radio advertising is basically a means of building good-will. Direct selling by broadcast is likely to prove injurious, so the only method of cashing in immediately on broadcast costs is by careful correlation with other media. The most effective use of the medium entails presentation of programs of a high entertainment value and gauged by the popular taste.

The reader who turns to *Advertising by Radio* for an economic appraisal of broadcast advertising will be disappointed. What tests have been essayed have been primarily important as a means of judging the popularity of programs. Dunlap has been uncritical in his acceptance of the benefits to be derived from this indirect method of selling. Unintentionally, probably, he is too completely actuated by a zeal to proselyte. Overlooking this point, which should have been the basis of the study, the reader will find much practical advice on program construction and presentation. Possi-

[6] By Orrin E. Dunlap, Jr. New York: The Ronald Press Company, 1929. 186 pp., price, $4.

bly the most valuable part of the book is to be found in the appendix, which gives a comparative table to broadcasting rates, the coverage to be expected, a list of broadcast advertisers and of stations, and specimens of continuity.

By making into a subtantial volume the material usually restricted to a chapter, Franken and Larrabee have made a real contribution to advertising literature in *Packages That Sell*.[7] The study is scholarly, judicious and thorough. After a brief explanation of the development of packaging and of the stimulation of sales as the results of packaging, the discussion goes to a treatment of each phase of packaging: materials, shape of package, size, color, design, illustration, type, copy, lettering and trade-marks are all covered. The statements made seem never to be hypothetical, but are based on tests, research and field work. The documentation is excellent, so that the inquisitive reader has the opportunity of checking statements at will.

Following the step-by-step explanation of the development of selling packages, the authors bring up for consideration the marketing aspects of packaging. Package inserts, combination and assortment packages and sampling are dealt with, not only from the point of view of technique but also with regard to their relation to the marketing problem. The final portion of the book, including a very helpful appendix, is devoted to a study of the mechanical aspects. Particular attention could well be focused on the summarized treatment of principles of package design (pp. 78, 79), the list of advantages of packaged merchandise to the manufacturer, the middleman, the retailer and the consumer (pp. 241–244), and the chapters on testing methods (pp. 136–156).

A reading of the books mentioned so far would suggest to the credulous reader that advertising is a true wife to the business Caesar—above reproach. Not at all! For refutation, one needs only to glance at Gundlach's *Old Sox on Trumpeting*.[8] This most diverting book is a cutting satire on the advertising agency sales-presentation hokum (a factor which some crabbed individuals solemnly aver does exist). In 436 B.C. the Tauros Trumpeting Agency attempts to secure the account of Zeus-ikin Kompany, oil merchants. With the stage all set for a high-pressure closure, in the chambers of the agency itself after Zeus-ikin has been ushered into the presence, Old Sox, invited to the conference by Helen, the Hell-raising Hetera of Zeus-ikin, ambles in to ask questions. The divine inspiration of the advertising agency is challenged. Market surveys, media selection, type of appeal, layout, are considered in an environment sufficiently remote to be beyond the reach of prejudices applicable to modern conditions.

It would be unfair to the reader who intends to hear out Old Sox, and needless for the reader who has, to excerpt the high spots. Nor does it seem necessary to warn the prospective reader that the book is not mere buffoonery. True, the jibes sometimes have the resounding thwack of the slap stick. But for all its burlesque character it is a most earnest attack on charlatanism and chicanery in advertising. Moreover, underlying the apparatus of satire runs a thread of

[7] By Richard B. Franken and Carroll B. Larrabee. New York: Harper & Brothers, 1928. 302 pp., price, $5.

[8] By E. T. Gundlach. Chicago: Consolidated Book Publishers, Incorporated, 1927. 379 pp., price, $2.

exhortation to use advertising only when it can accomplish results commensurate with its cost, and even then to let the plan be influenced by the situation rather than by the conventions of the craft. All readers will enjoy the book—but none more than those who have endured the ritual of advertising-agency solicitation.

The reader who follows Gundlach with Dickinson's *Crying Our Wares*[9] is likely to feel himself in the midst of chaos. Gundlach presents a bitter indictment of prevalent agency practices. On the other hand, Dickinson, in a reminiscent sort of way, rhapsodizes over the righteousness of the modern agency. He does not overlook deficiencies. The corrosive unrest that prompts the advertisers to swap agencies, however, he regards as the basic evil. To it is due the trend of the present-day agencies away from the true business of the advertising man—writing copy—toward the assumption of peripheral activities, such as market surveys and analyses and sales-promotional cooperation. What faults he sees in the practice of advertising, Dickinson regards as the result of interagency competition which has caused the gradual overemphasis of the accounting executive and the financier. The copy writer, now as before imbued with sweetness and light, needs only to be untrammelled to make advertising mankind's perfect achievement. One suspects that Dickinson's most notable advertising successes, of which there are many, have been largely in the field of copy writing.

Disregarding all considerations of fundamental validity of analysis, the reader can enjoy *Crying Our Wares*. The author is old enough to have an intimate contact with advertising from the time when advertising agents were space brokers alone, and advertising budgets were reckoned in thousands rather than in millions of dollars. He gives a graphic account of an amazing development, enriched as it is with anecdotes concerning brand names now household words. Moreover, the book is of interest not only for its account of the old days now gone, but because it carries through to the development of broadcast advertising, in which Dickinson sees a new field for his old friend, the copy writer.

Interesting though the book is, the reader can not but hope that it is not intended as a defense of advertising. Save in one chapter, in which the author unashamedly admits the tendency of advertising to raise consumer prices of advertised goods, the analytic element is subordinated.

In one way, Hopkins' *My Life in Advertising*[10] is a curious work. Hopkins has been advertised as the highest-paid advertising writer in America and is usually placed well toward the top of the long list of men termed deans of advertising. He has been essentially a copy writer—and a writer of copy which is far simpler than that which most others have been able to learn to write. Yet the philosophy of advertising for which his biography is actually the vehicle, is largely that of marketing strategy. A product has not been selling: Hopkins takes it over, learns all he can about it, and devises an inducement or offer that introduces the product successfully. Copy? Media? Layout? They are ignored. "But we told facts which no one else ever told. We told of beans grown on special soils. Any good navy beans must be grown

[9] By Howard W. Dickinson. New York: John Day Company, 1929. 308 pp., price, $3.

[10] By Claude C. Hopkins. New York: Harper & Brothers, 1927. 206 pp., price, $3.

there. We told of vine-ripened tomatoes, Livingstone Stone tomatoes. All our competitors used them. We told how we analyzed every lot of beans, as every canner must."

Deducible from the various episodes Hopkins relates, are three principles: plan and write advertising only after securing thorough knowledge of the product and first-hand information concerning users; find an inducement or offer that will bring the product to users as directly as possible; and do not overlook the obvious sales points merely because they are applicable to competitive products, for usually the customer does not know of the latter.

The principles in application lack the novelty now that they had when Hopkins first used them. Everybody has attempted to follow his lead, so that his practices are now somewhat frayed by usage. Moreover, our whole system of distribution is more complex than it was when Hopkins' ability was more nearly unique in the field. Without doubt, he was and is a consummate copy writer. But the copy writer must have something besides a pellucid style; he must have a message. That message Hopkins has seemed to derive from a flair for bargaining. Possibly it would be clearer —and not a whit less respectful—to say a refined horse-trading instinct.

But the operation of such a talent is an art, not a science, as Hopkins himself admits. Even though the knack can not be taught, there still remain the two schools at which Hopkins studied—direct-mail and mail-order selling. *My Life In Advertising* does not bring any generalized comment to bear on the whole field of modern advertising. It attempts to show how a successful advertising man developed his ability, and it will help the reader who wants to make of himself a better advertising man. But the broader economic aspects of the subject are neglected.

In *What About Advertising*,[11] Goode and Powel have not analyzed advertising from the point of view of the individual, but have looked at the whole machine and have studied the road map as well, to see, if the machine goes, where it can go. The book is crammed with suggestion, penetrating points that cut through the clichés by which business men seek to avoid thinking about advertising.

"Unfortunately for advertising originality, fear of staying out is often more potent than faith in going in . . . Eliminate absolutely this element of personal and commercial vanity, and perhaps a third of your highest-priced advertising would gradually fade from sight. Require, further, every advertiser to state exactly what he expects to accomplish—or even hopes to accomplish—through a given advertisement, and a good deal more would follow it.

"When he is a definite personality like Marshall Field or Cyrus H. K. Curtis—a man who would certainly succeed without it—his advertising flourishes . . . This long-submerged school of pragmatists is slowly but surely thrusting its direct mailed fist through our politely polished dancing floor. They, too, have their axes to grind, their own commodities to sell. Neither in achievement nor ability do they outmeasure the better men in the more ambitious branches of advertising. But they have two tremendous advantages. They keep their eye on results. They prefer facts, not fancies."

[11] By Kenneth M. Goode and Harford Powel, Jr. New York: Harper & Brothers, 1927. 399 pp., price $3.50.

These are a few of the bits that should be underlined. The burden of the book can be summarized. Advertising must be accounted and its limitations must be realized: it is too feeble a gesture to move public opinion unless public opinion happens to be going in the right direction.

The pendulum swings again, and advertising is given a clean bill of health. In *This Advertising Business*,[12] Durstine pleads the cause of normal advertising activities. His thesis is plausible. It is, he reminds us, the unusual instance that is used as a text by the sensationalist. The advertising-agency man plows his half-acre day after day, making possible the orderly distribution of merchandise, reducing selling cost, making mass production feasible, lowering the price to consumers and raising the standard of living of the American public. This activity is taken for granted, and overlooked, while the rare violation of advertising ethics or expediency is monumentalized with destructive criticism.

Most of the points Durstine makes are illustrated with concrete, though anonymous, anecdote. Delightfully written, the book is admittedly entertaining. But as a critical appraisal, it is unsatisfying; it is as one sided as the attacks it attempts to refute. No one denies credit to advertising and the methods of sales promotion complementary to advertising, for they literally have made possible this mass-production and mass-consumption age. When Durstine throws the dust of the obvious in the eyes of the seeker after ways to make advertising better, he side-tracks the main inquiry—the discovery of ways to make advertising more valuable and less wasteful than it is.

Considering the concreteness and specific character of the criticisms of advertising, Cherington's defense of advertising[13] is surprisingly general. After a good many pages of generalization, he sets up a test: "Is it (advertising) designed to make the final consumer a more competent buyer?" Evidently Dr. Cherington believes that modern advertising meets this test: "But advertising as a device helping mankind to live better in a mass-production age needs no defense. *It is justified by its continued existence* (italics are ours). We consumers will put an end to it when it no longer serves us well. We can make it unprofitable any day when we lose faith in it." It requires a thorough-going optimist to follow a test so searching with so bland a conclusion. One wonders if Cherington has ever compared, let us say, competitive cigarette advertisements.

If we want definite material on advertising results, we have only to turn to Carroll Rheinstrom's *Psyching the Ads*[14]—the faults of which book are suggested by its "jazzy" title. Rheinstrom has collected 180 advertisements, reprinted them and given the inquiry counts for each. In many cases sales figures have been included as well. The types of business enterprise covered range from muscle-building correspondence courses to trust-company service. This much is excellent, and it offers the advertising writer an admirable field in which to study his craft. Unfortunately, Rheinstrom has felt that his factual material needed

[12] By Roy S. Durstine. New York: Charles Scribner's Sons, 1928. 331 pp., price, $3.

[13] *The Consumer Looks At Advertising*, by Paul T. Cherington. New York: Harper & Brothers, 1928. 196 pp., price, $2.50.

[14] New York: Covici, Friede, 1929. 362 pp., price, $5.

popularization, and has given each advertisement or series of advertisements a sort of tabloid introduction. Rheinstrom has gathered into convenient and usable form an invaluable body of factual material. His handling of it makes it seem somewhat superficial. It would have been much more useful had he left out embellishments that rarely seek to interpret, but that instead try to add "reader interest" to facts vitally interesting.

Apparently unsatisfied with the finality of his previous book, *What About Advertising*, Kenneth M. Goode[15] has brought a still trenchant pen to bear on what may be the fundamental consideration. Since advertising is a form of selling, its success depends on the salability of the merchandise it deals with. By means of a very interesting bit of historical rationalization, Goode shows that manufacturing in this country, first through necessity and not through habit, has been and is directed by the nature of available production facilities. A manufacturer finds that he can make a certain type of gadget with little extra expense; he arranges to make it, and leaves to advertising the herculean task of cramming it down the public throat.

This condition Goode rightly holds to be unsound. His solution is this: If only those articles for which there is an actual, or a plausibly potential need, are manufactured, then advertising can become an economical means of selling. But so long as advertising has not only to sell goods that should be sold, but has as well to make up for errors in judgment on the part of those who direct the course of manufacture, it will be an expensive economy in our mass-production system. Obviously Goode becomes, in his more recent book, a bit utopian. But the point is of fundamental importance none the less. And like everything Goode writes, the book is well worth reading.

Out of this welter of explanation, criticism and defense of advertising, can we discern any trend? Possibly the most significant aspect is that, with the exception of Professor Franken, every writer we have reviewed is, or has been, actively engaged in advertising work. In a survey of advertising books by Professor Borden in the October, 1926, issue of this REVIEW, the situation was shown to be reversed. Academic pedagogs almost exclusively were writing about advertising. But, in the intervening time, advertising has come out of the cloister: advertising men themselves are thinking and writing about the subject. This condition gives abundant promise for the future of advertising.

LAWRENCE C. LOCKLEY

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[15] *How to Turn People into Gold*, by Kenneth M. Goode. New York: Harper & Brothers, 1929. 221 pp., price, $3.50.

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BAUER, GEORGE N. *Mathematics Preparatory to Statistics and Finance.* New York: The Macmillan Company, 1929. 337 pp. $2.

BRISSENDEN, PAUL F. *Earnings of Factory Workers* 1899 to 1927—*An Analysis of Pay-roll Statistics.* Census Monographs X. Washington: Government Printing Office, 1929. 424 pp. $1.50.

CANNING, JOHN B. *Economics of Accountancy.* New York: The Ronald Press Company, 1929. 367 pp. $5.

CHAPIN, ALBERT F. *Credit and Collection Principles and Practice.* New York: McGraw-Hill Book Company, Incorporated, 1929. 518 pp. $4.

DE MAN, HENRI. *Joy in Work.* Translation from the German by Paul, Eden and Cedar. New York: Henry Holt and Company, 1929. 224 pp. $2.50.

DICE, CHARLES A. *New Levels in the Stock Market.* New York: McGraw-Hill Book Company, Incorporated, 1929. 264 pp. $2.50.

DICKINSON, HOWARD W. *Crying Our Wares.* New York: The John Day Company, 1929. 308 pp. $3.

DIPPY, ALBERT W. *Advertising Production Methods.* New York: McGraw-Hill Book Company, Incorporated, 1929. 318 pp. $4.

DUNLAP, ORRIN E., JR. *Advertising by Radio.* New York: The Ronald Press Company, 1929. 186 pp. $4.

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